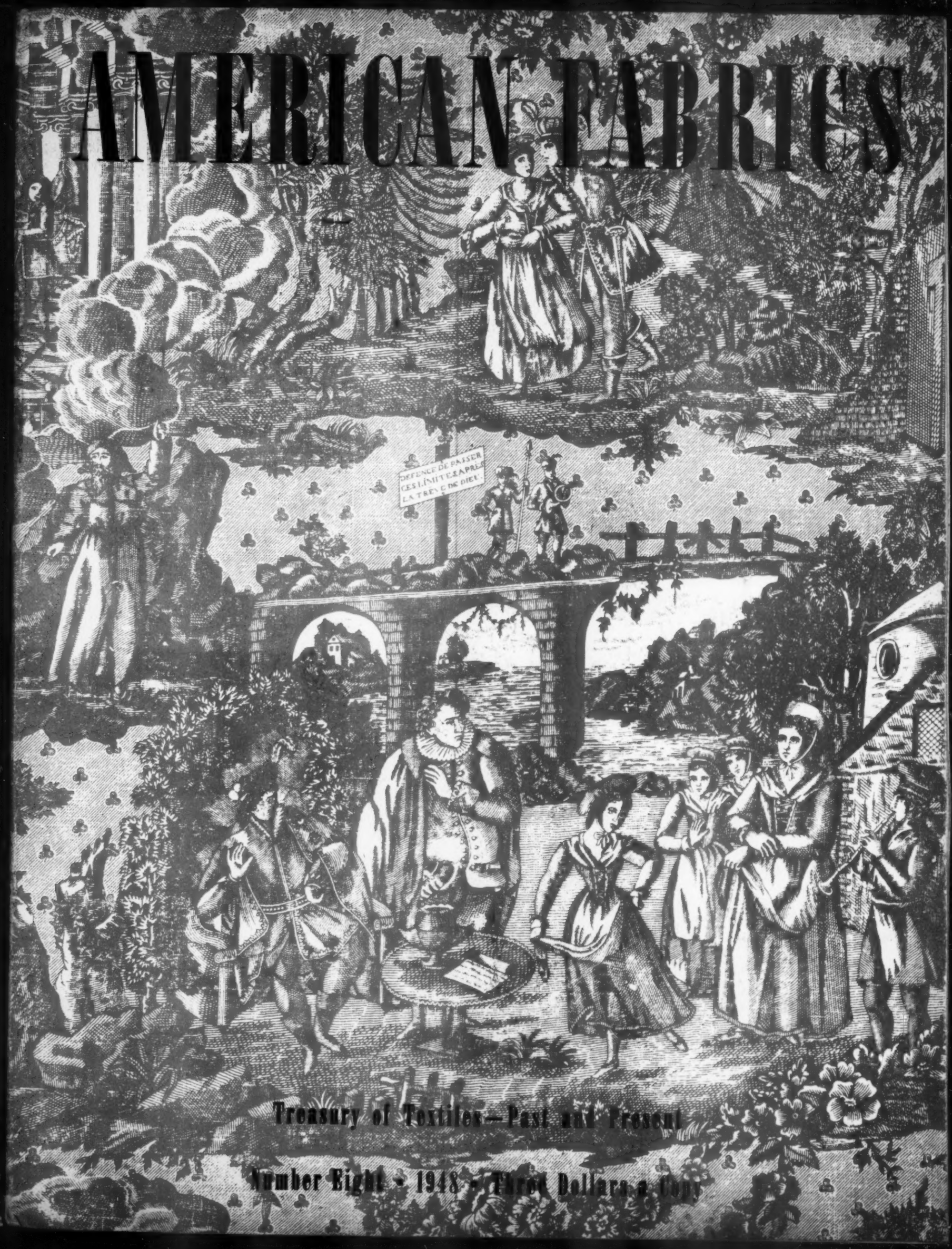
AMERICAN FABRICS



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Number Eight - 1948 - Three Dollars a Copy

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American Fabrics is published quarterly by Reporter Publications, Incorporated, who are the publishers of Men's Reporter, Women's Reporter, Canadian Reporter, Canadian Women's Reporter, National Gold Book Directory, the British Gold Book and Excellence.

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AMERICAN FABRICS, Empire State Bldg., New York 1, New York

Number Eight 4th Quarter 1948

Fashion Begins with the Fabric

American Fabrics

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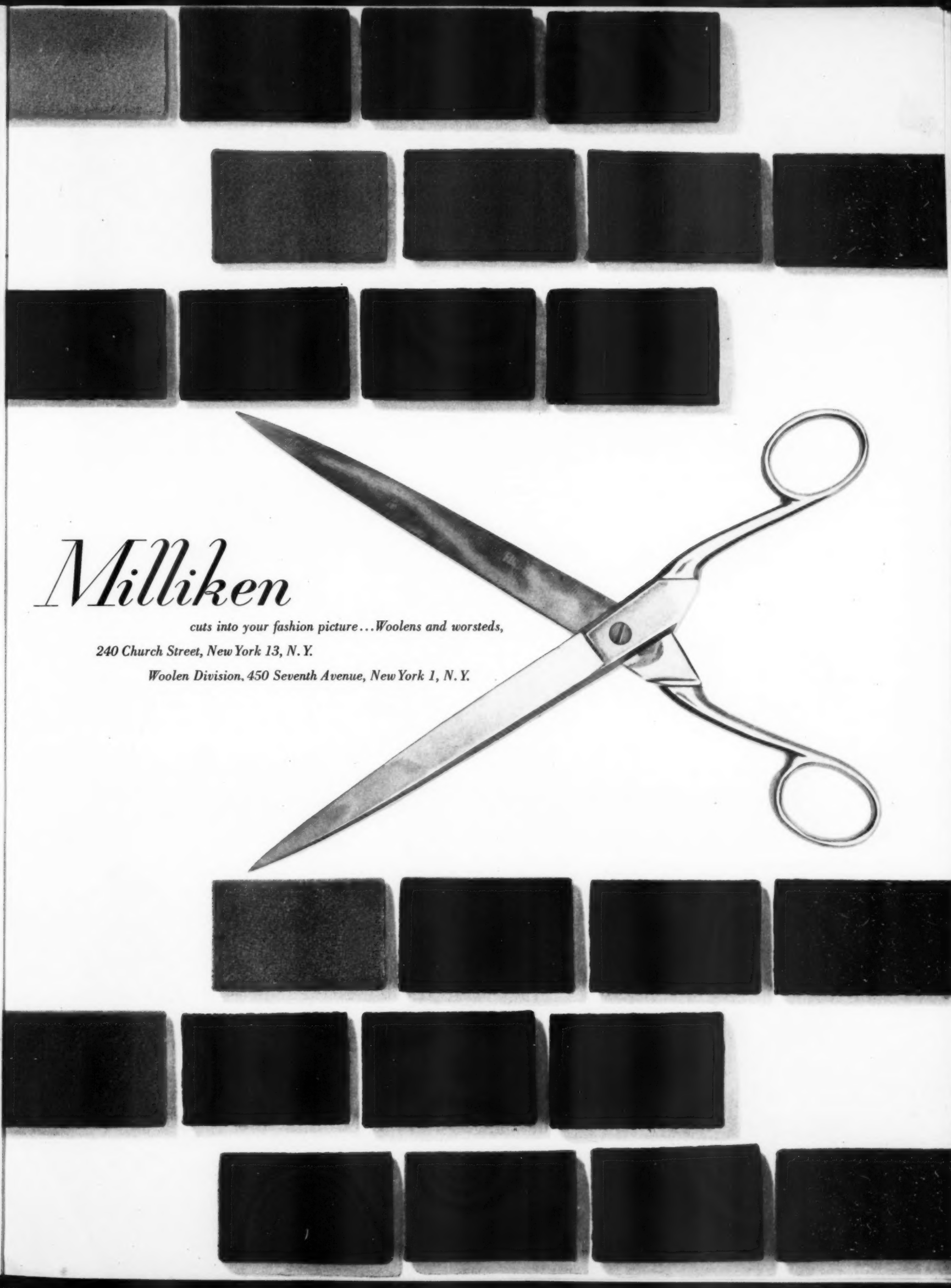

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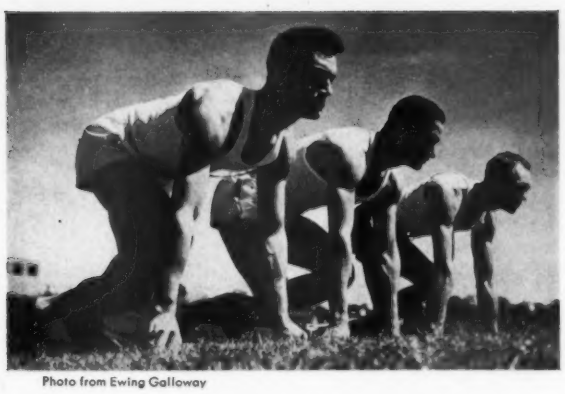

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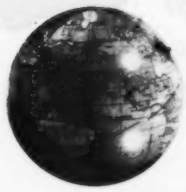
at home  **or abroad . . .** the Stafford Stallion is a sure and faithful guide to all those who make quality their goal. This honored mark points unerringly to fabrics of superb color . . . to exquisite printing . . . to originality in weave and design . . . and beauty and worth in texture.

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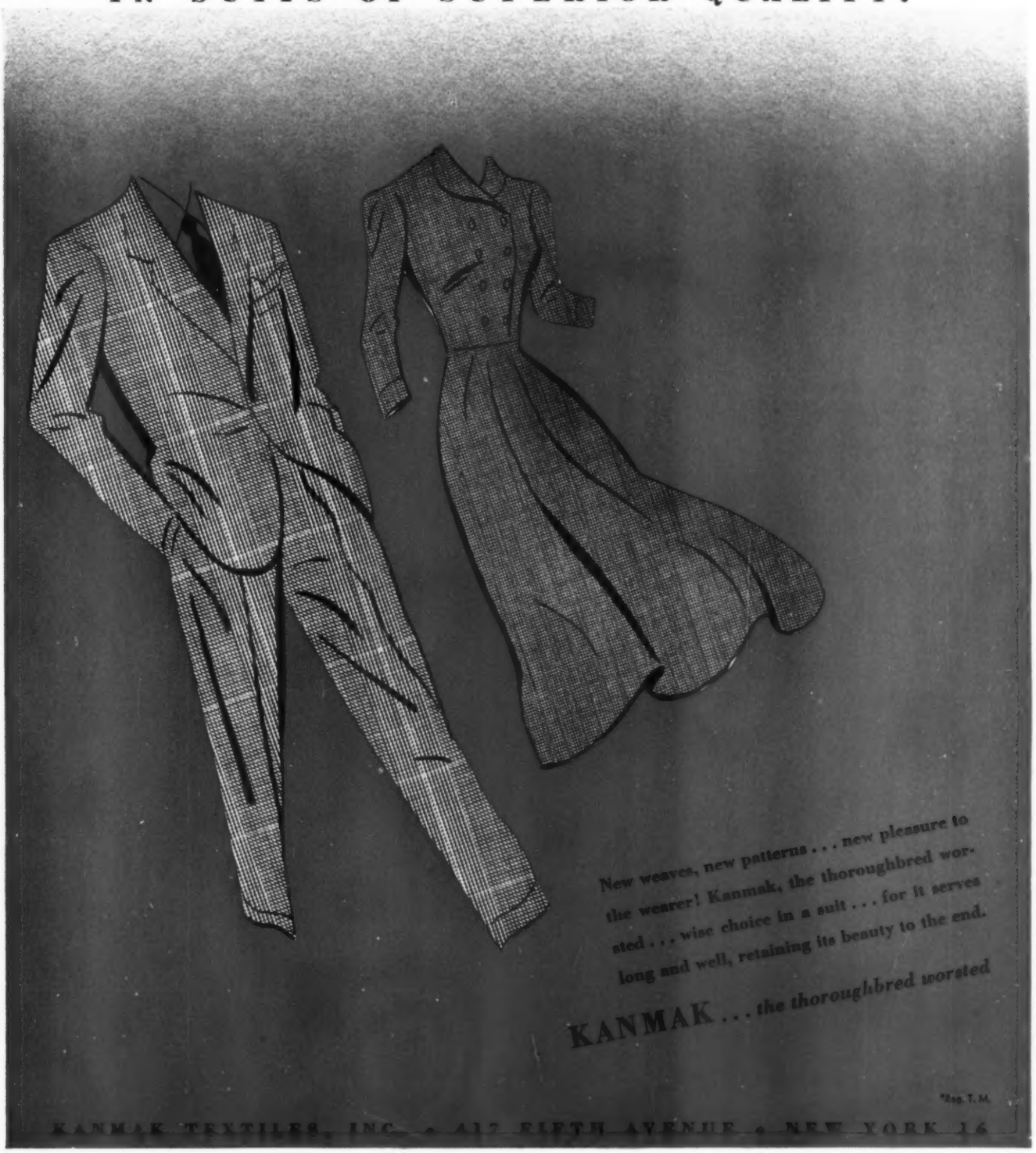

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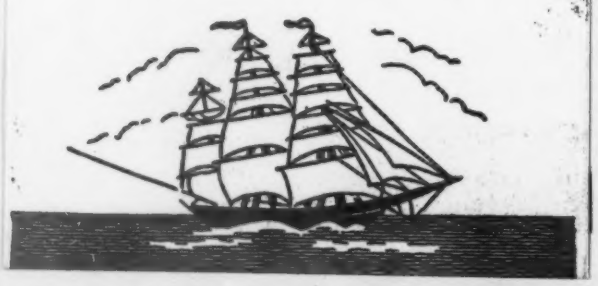

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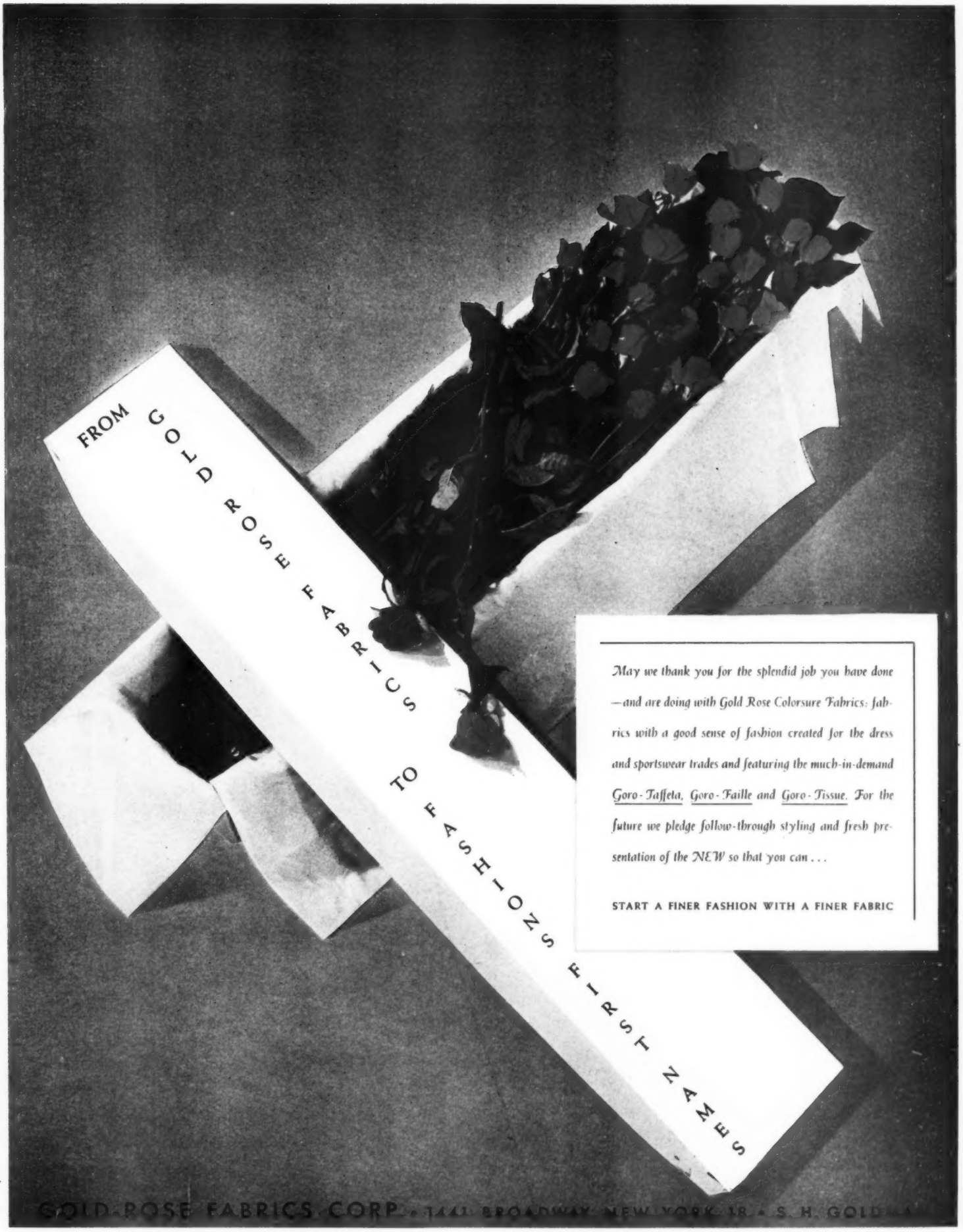
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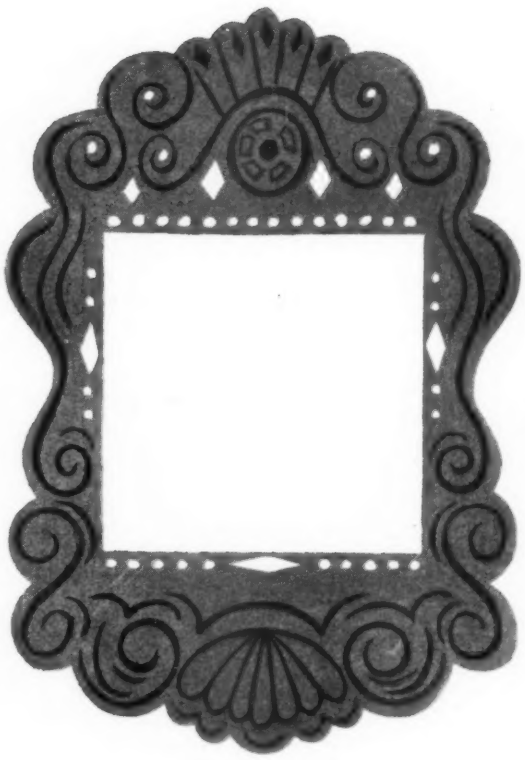

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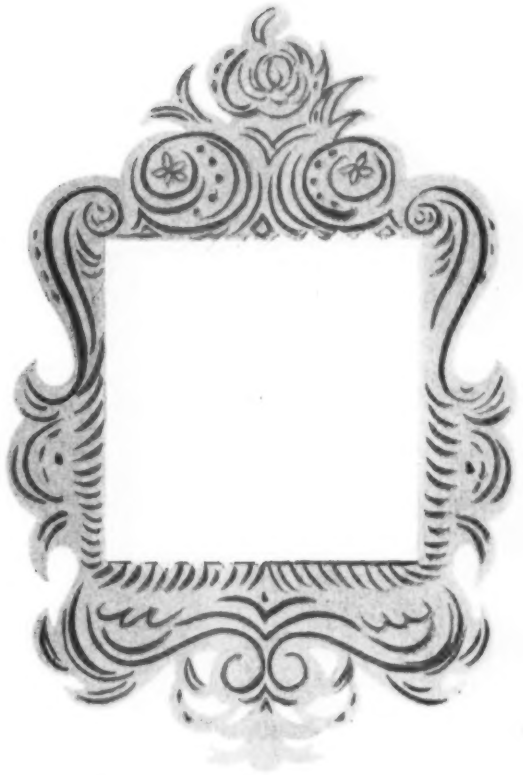

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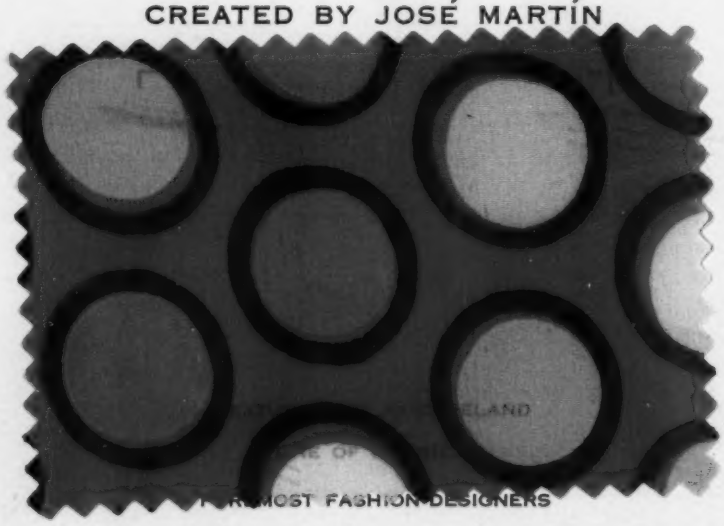

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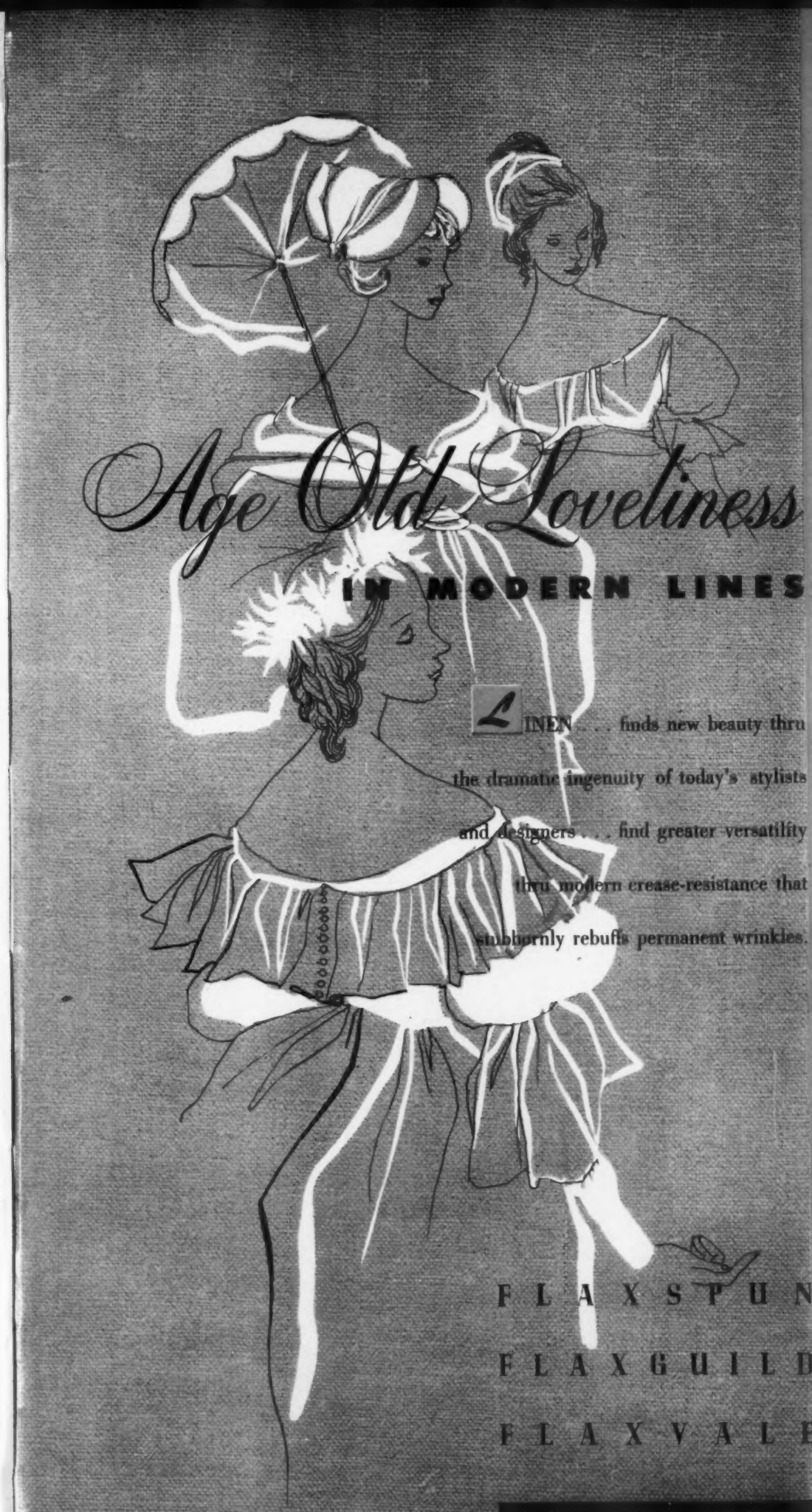

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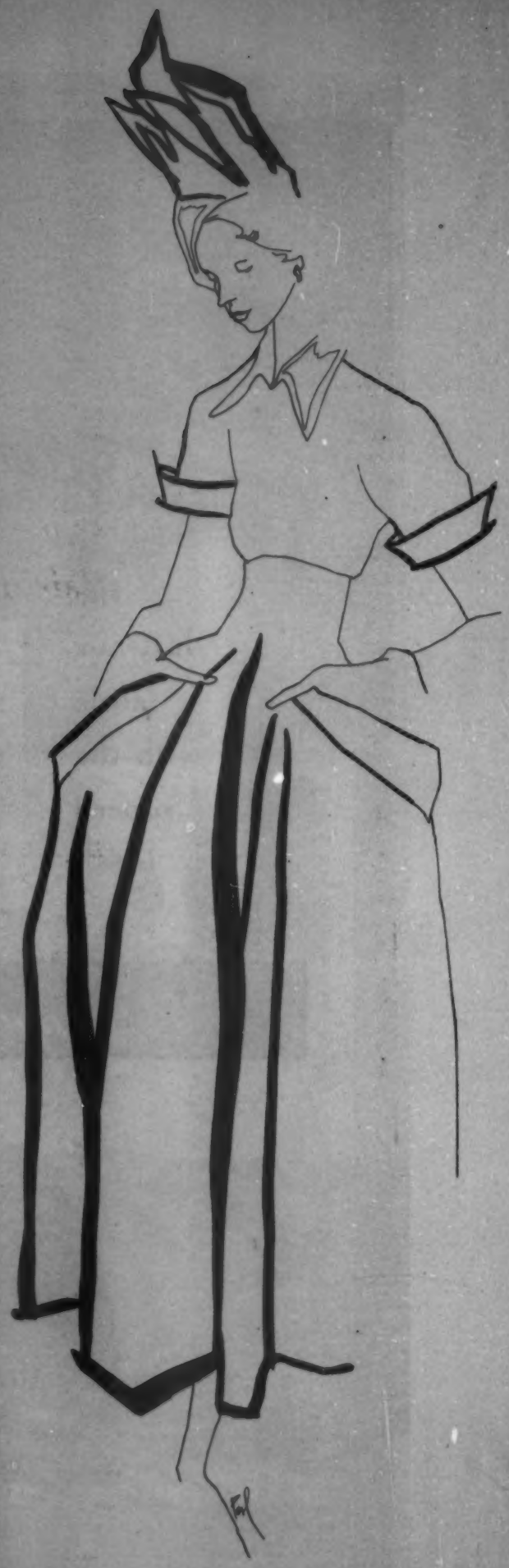

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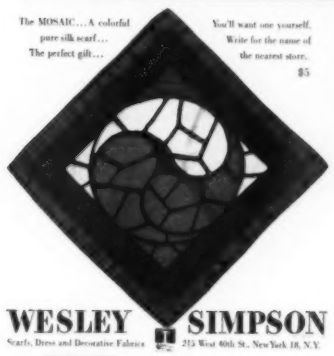

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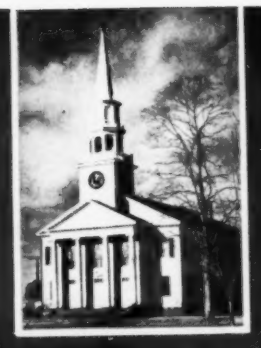

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*T. M. REG.

Follow that Woman

. . . THROUGH YOUR STORE ?

She is The Woman Who Sews . . . so important to your Store! Her true worth is revealed as she shops from department to department, leaving behind a trail of saleschecks. She is a discriminating, fashion-conscious customer. She seeks individuality in her choice of style, design, and fabrics. That is why she is such a liberal purchaser of accessories to complete her costume, as indicated by typical findings of these individual store surveys:

At RIKE-KUMLER CO., Dayton, Ohio, *34.0 percent* of the pattern and piece goods customers surveyed buy *hats . . . 16.4 percent* buy *girdles.*

At HARRY S. MANCHESTER, Madison, Wisc., *18.4 percent* of the piece goods and pattern customers surveyed order *slips* to complete their costumes, *12.5 percent* buy *costume jewelry.*

At WALKER'S, San Diego, California, *31.6 percent* of the piece goods and pattern customers questioned also purchase *handbags, 22.9 percent* buy *gloves* to go with their clothes.

At LIPMAN WOLFE & CO., Portland, Ore., *32.8 percent* of the store's pattern and fabric customers polled purchase *shoes* and *32.8 percent* buy *belts.*

Yes, The Woman Who Sews *is* a best customer. Probably no other location sets as much traffic in motion as the few square feet of your pattern department.

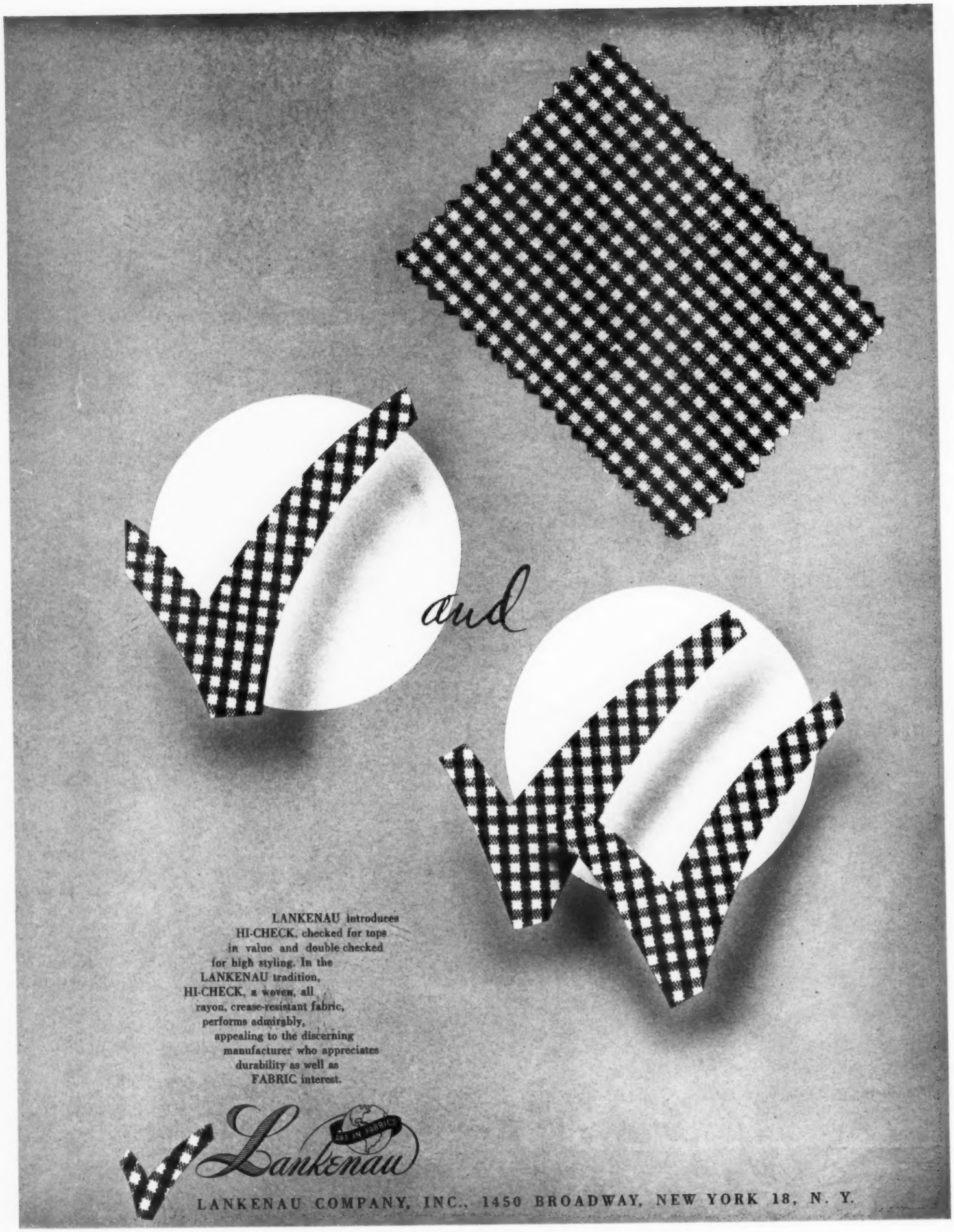
For high-style authenticity, The Woman Who Sews looks to McCall. By impartial nationwide survey*, *56.2 percent* of the 10,000 women polled said they *prefer to use McCall Patterns!*

McCall ALL-PRINTED PATTERNS

BUILD STORE TRAFFIC

**From "The Woman Who Sews," a 58-page survey prepared in cooperation with 24 representative department stores, which analyzes and evaluates the factors affecting fabric and pattern selling. Write McCall Corp., 230 Park Ave., New York 17, N. Y., for your free copy.*

ROBAIX, INC. • 1412 BROADWAY • NEW YORK 18, N. Y.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in value and double checked
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rayon, crease-resistant fabric,
performs admirably,
appealing to the discerning
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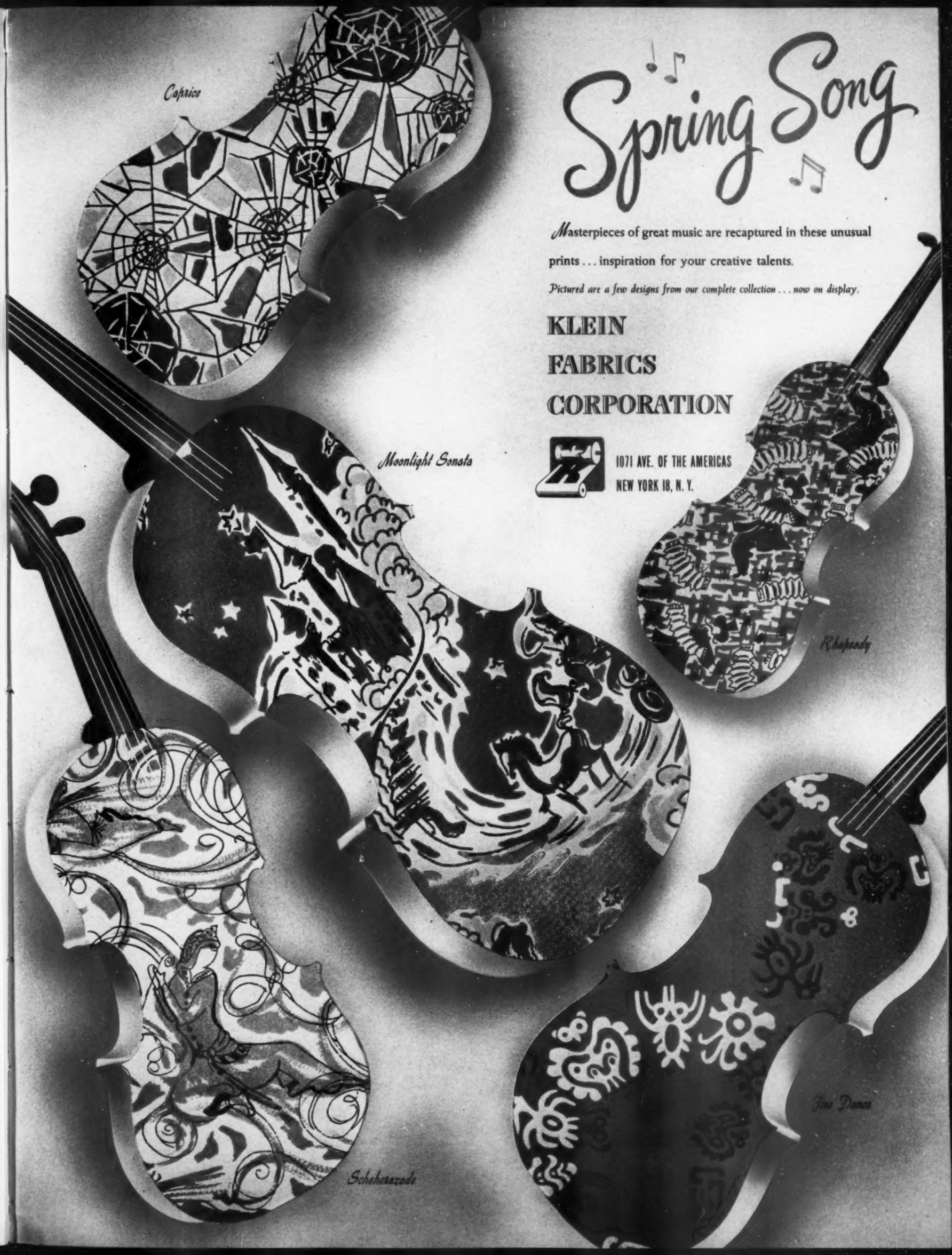
*A trade-mark signifying fabric finished and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons Co.



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Masterpieces of great music are recaptured in these unusual prints . . . inspiration for your creative talents.

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exotic prints . . . echoed in coordinated designs . . . inspired by the women's brilliant costumes of the fabled Tehuantepecs . . . an unprecedented idea in matched prints, superbly interpreted for the fashion trade and retail fabric departments by

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Our adherence to traditional principles in manufacturing and merchandising is the retail merchant's assurance that the high-quality specialty fabrics for which Continental has become famous will continue to be available in the feature promotions of the nation's leading apparel manufacturers.

Presented under the trade name of the individual clothing maker to whom it is allotted, every Continental creation has its own distinctive features and is styled, developed and finished to meet a specific retail merchandising requirement.

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A collection of new, feminine toned dressmaker tweeds . . . soft . . . luxurious . . . so typical of Cerey'. . . in 100% wool.

These selected fabrics now on display in the "American Textiles, '48" exhibition at the Metropolitan Museum of Art, New York City

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CLIC-A-DOO, selected as one of the outstanding fabrics by the Metropolitan Museum of Art for "American Textiles, 1948".

CLIC-A-DOO, a Sanforized cotton, and other fine abc fabrics, are featured in leading stores throughout the country.

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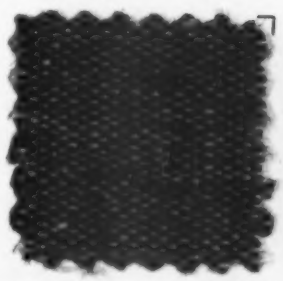
Magnificent woolens with a deep, luxurious hand, deserving of the finest, most skillful tailoring. Supple, full-bodied fabrics in vibrant colors and unusual designs, loomed for long, comfortable wear, every season of the year . . . in the tradition of quality maintained over half a century in exclusive Strong, Hewat Virgin Wool Fabrics.



Strong, Hewat is represented in the Metropolitan Museum of Art exhibition of American Textiles '48.

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...selected by the **METROPOLITAN MUSEUM OF ART**

as one of the textile achievements of America!

...displayed in the Textiles of the Year exhibition

at the Museum: November 24 to January 9

Made of DuPont acetate rayon and rayon yarn, Fasonay

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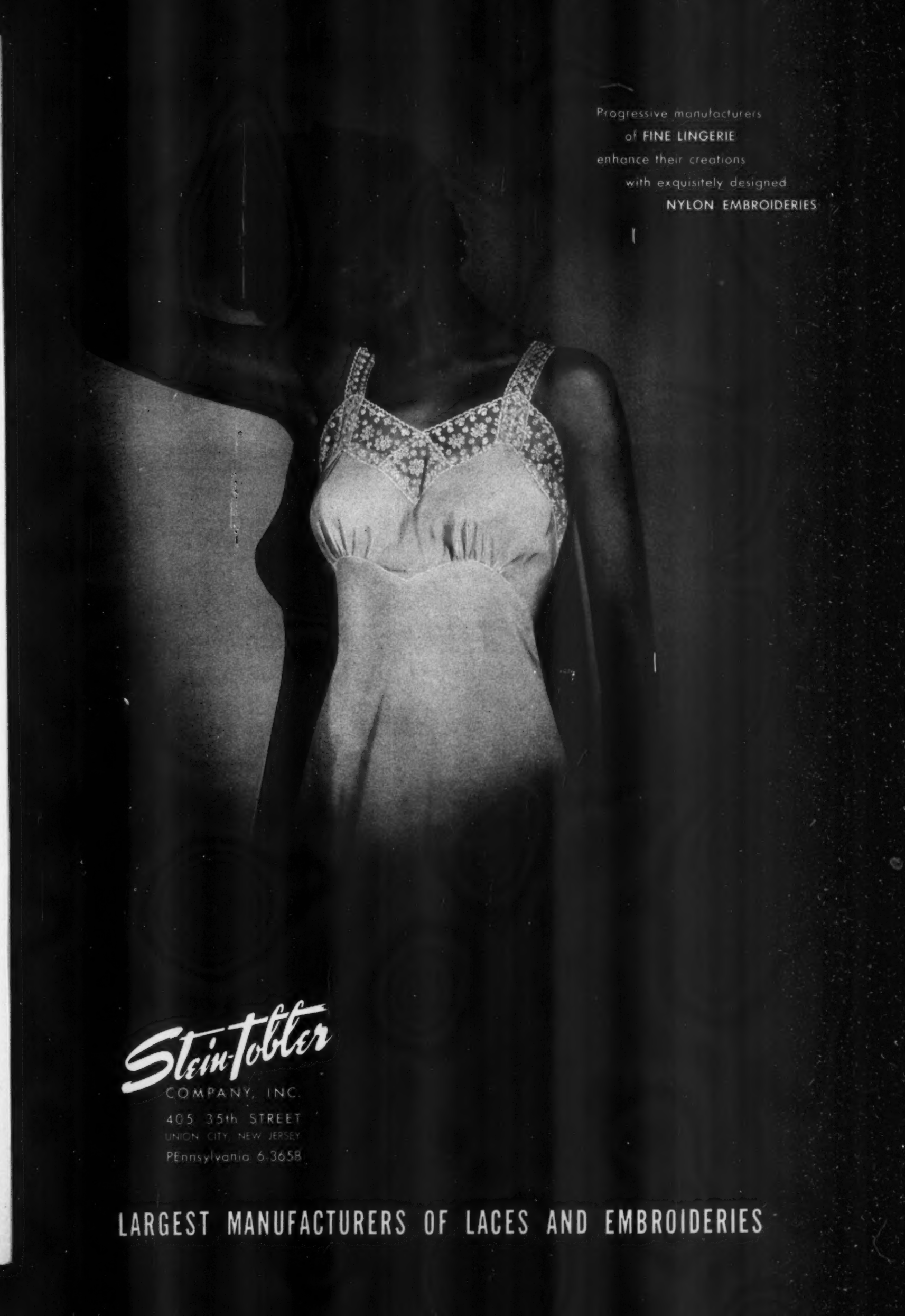
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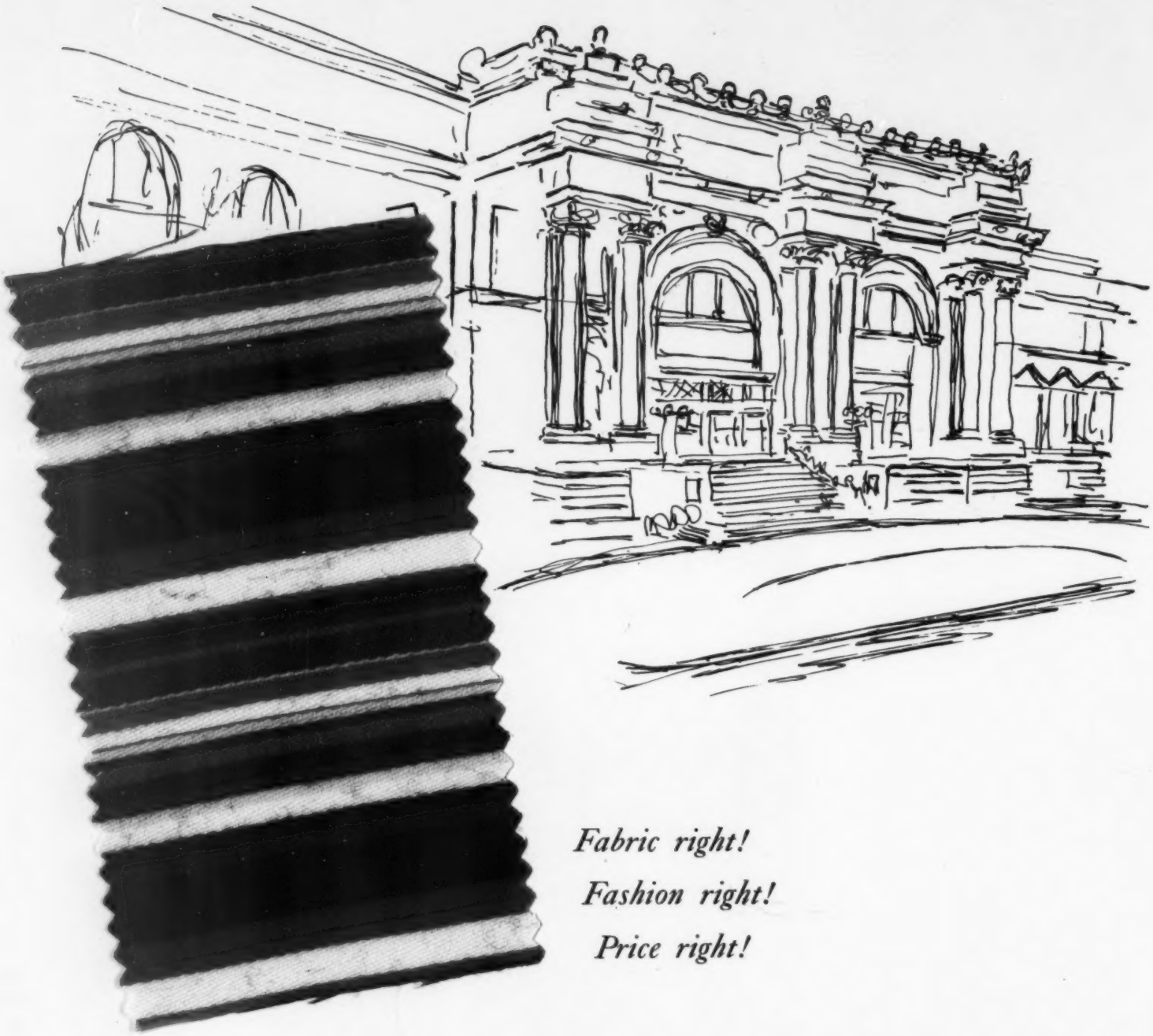

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fabric selected by the Metropolitan Museum of Art

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MEN'S REPORTER BECOMES
A WEEKLY MAGAZINE

The pace **of the entire men's apparel industry is perceptibly quickening. Buyers are visiting markets more often. Traveling salesmen are covering their territories with greater frequency. New merchandise, new fashion ideas, new items are being created and launched more quickly than ever before. The need for a weekly trade magazine in the men's industry is important and imperative. Therefore, after months of preparation, Men's Reporter, for over 18 years one of the industry's leading magazines, will swing into a weekly with the** ***First Issue appearing on Friday, January 7th, 1949.***

If you'd like to know more about this exciting new
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Men's Reporter Weekly . . .

Reporter Publications, Inc.

publishers of Women's Reporter, American Fabrics, Canadian Reporter, Canadian Women's Reporter, Gold Book Directory, British Gold Book. Address: 350 5th Ave., New York 1, N. Y. Phone—WIsconsin 7-2790.

☛ ***Please Note:*** *For the past seven years Men's Reporter, as a monthly, has carried the greatest number of advertising pages per issue among all the trade publications in the men's field. Nevertheless we feel that the times demand a change . . . that the great field of men's apparel and textiles will benefit to a marked degree by a faster presentation of selling news, fashion, merchandising, industry events.*

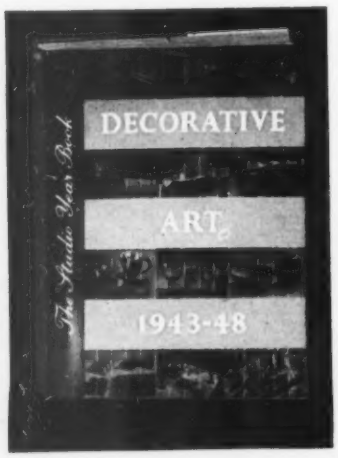
Now Watch Men's Reporter Weekly—

A New Vital Force In The Men's Industry

PRESENT SUBSCRIBERS: . . will receive weekly issues of the Men's Reporter until expiration date of present subscription without additional charge. New subscriptions (52 issues) will be accepted for limited period at present rate of $5 per year.

Which One (or several) of These Practical Books Can You Use in Your Work?

The publishers of American Fabrics through a courtesy arrangement with Studio Publications offer the volumes listed at a discount of ten percent (10%) from list prices. This offering is an extremely good opportunity to buy — at a savings — books which are worthwhile useful additions to your reference library. Offer to American Fabrics subscribers only.

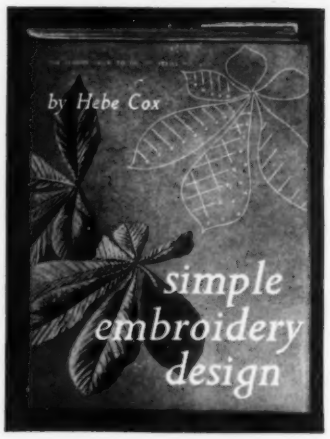


DECORATIVE ART 1942-1948

Edited by Rathbone Holmes. The first post-war edition of our famous international annual. The *new larger size* 'Decorative Art' contains over 400 illustrations, including 16 pages of full color of the best interiors (every room in the house) by the leading decorators of all productive countries of Europe, Scandinavia and the Americas in the past few years. 216 pp. (Over 400 illus.) 16 color plates. 9 x 12. Cloth Bound. $7.50

SIMPLE EMBROIDERY DESIGN

By Hebe Cox. One of the most pleasant recreations can be turned to practical use. The book favors examples that are useful for domestic purposes. Chapters deal with 'Ideas,' 'Texture,' 'Pattern Making,' 'Methods of Transforming Designs to Material,' 'A Piece of Work Through All Its Stages,' 'More Ambitious Designs,' 'Mounting and Finishing the Work,' 'Illustrated Examples of Completed Embroidery.' 96 pp. (60 illus.) 5½ x 10. Cloth Bound. $4.00



FLOWER ARRANGEMENTS

By Caroline E. Peterson. We believe this to be the most beautiful book on the art of flower arrangement that has ever been published. It is really an *art book* — and a perfect treat to look at. A practical guide is given on how the arrangements were made, the flowers that were used, etc. The author is a famous Garden Club of America lecturer, well known throughout the country. 80 pp. illus. 8 large color plates. 9 x 12. Cloth Bound. $7.50

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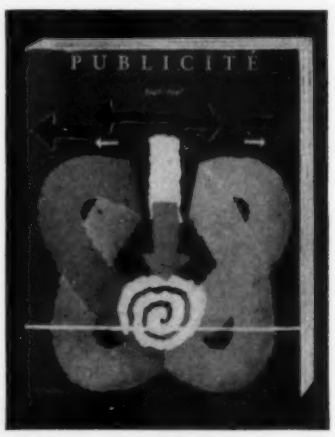

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*Schiffli embroidery —

the favorite for dresses,

blouses, lingerie and trimmings,

for the flattering, feminine look.

* SCHIFFLI IN SWISS MEANS LITTLE BOAT

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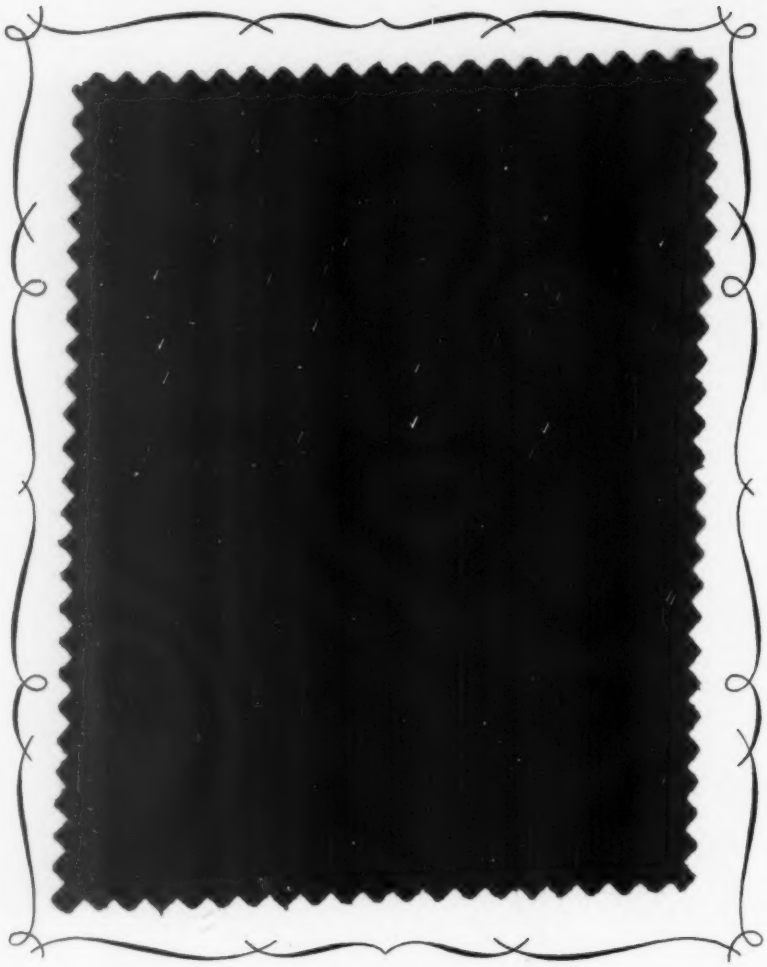
Embroidery



Prince of Wales

SELECTED FOR SPECIAL DISTINCTION

Prince of Wales by Greenwood was chosen to be displayed at the Metropolitan Museum of Art "American Textiles, '48" Exhibit. Available to Discriminating Manufacturers of Sportswear.

GREENWOOD MILLS

35 THOMAS STREET, NEW YORK CITY

now it's navy, ombred-navy...another new day design typically miron modern, wonderfully american. you'll see it in the exhibition of "american textiles, '48" at the metropolitan museum of art, new york city.

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white-ombred
navy with navy
—the color,
never more important
...the patterned worsted, a trend
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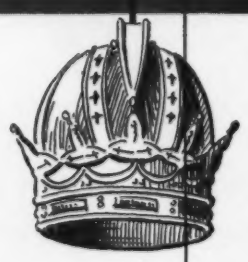
and pure miron modern
miron mills, inc., 51 madison ave., n. y.

Critics' Crown



RENOIR . . .

a regal name always associated with artistry in fabrics is again on exhibition.

With great pride, we announce the Metropolitan Museum of Art's selection of a Renoir print to be shown at the "American Textile '48" exhibit.

Visit ***Renoir's*** showings of the latest masterpieces of fabric for '49 . . . ***pure dye silk*** prints and ***rayons*** in vibrant pallette colors and inspired patterns.

RENOIR FABRICS, INC. • 1400 BROADWAY, NEW YORK 18, N. Y.

Design by Gernreich

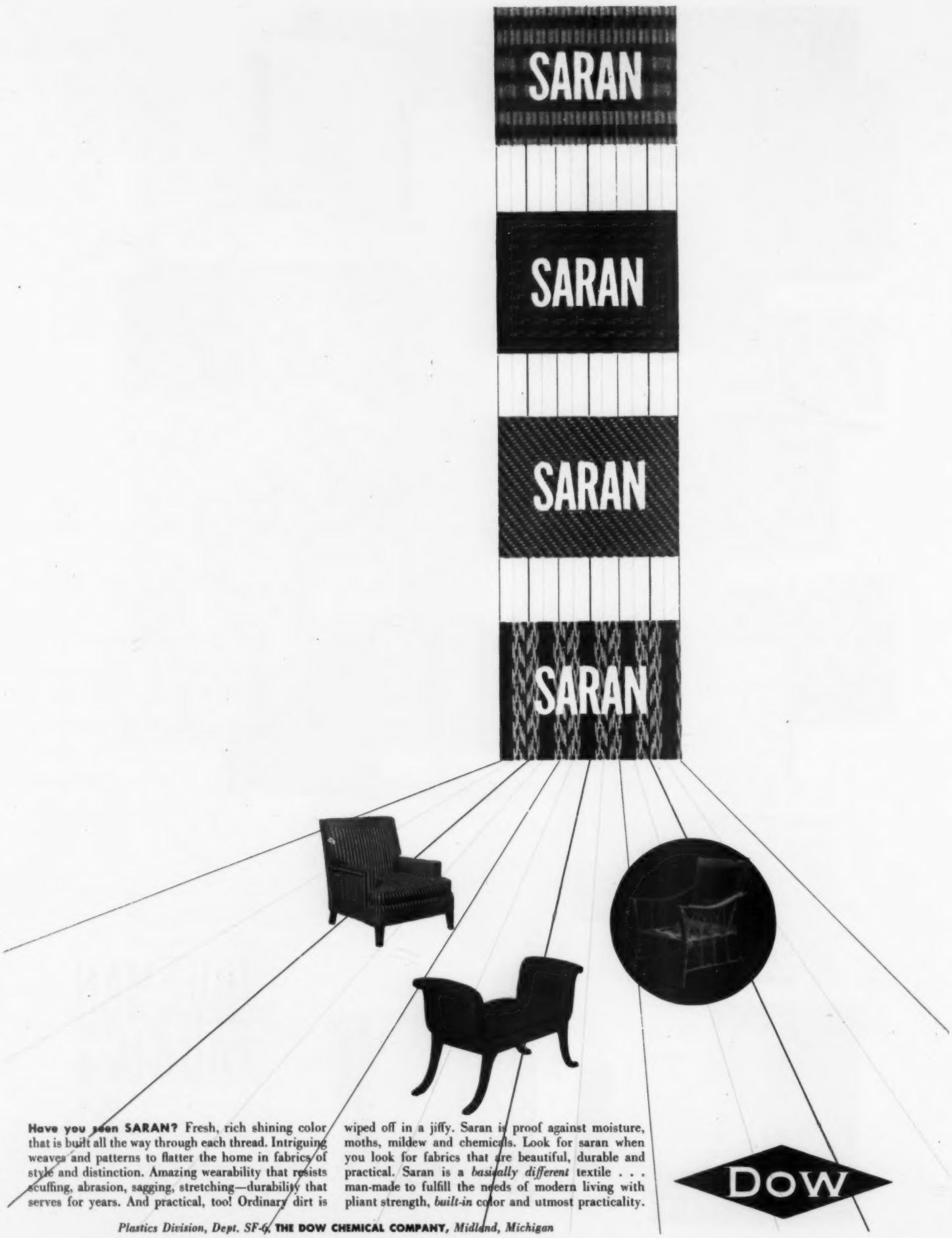
from under California skies comes

Desert Rock

Hoffman's wonderful new iridescent rayon. In 18 exciting new Hoffman colors that capture all the romance of the mystical Mojave. Colors that are perfect for your new spring wardrobe. "Desert Rock" is real "California-by-the-Yard." Try it! Write for name of store nearest you.

HOFFMAN CALIFORNIA FABRICS

766 S. Los Angeles Street, Los Angeles 14



Have you seen SARAN? Fresh, rich shining color that is built all the way through each thread. Intriguing weaves and patterns to flatter the home in fabrics of style and distinction. Amazing wearability that resists scuffing, abrasion, sagging, stretching—durability that serves for years. And practical, too! Ordinary dirt is wiped off in a jiffy. Saran is proof against moisture, moths, mildew and chemicals. Look for saran when you look for fabrics that are beautiful, durable and practical. Saran is a *basically different* textile . . . man-made to fulfill the needs of modern living with pliant strength, *built-in* color and utmost practicality.

Plastics Division, Dept. SF-6, **THE DOW CHEMICAL COMPANY,** *Midland, Michigan*

Suit Donnybrook — Hat Mr. John

Pictured is Suskana pure worsted Bonosheen Fabric ®

Suskana® for color!

Fabrics for Women's wear, Men's wear,
Neckties, Auto seat covers, Upholstery.

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for quality and elegance

PERGOLA– *pure silk prints*
a group of sparkling designs in luscious colors

ENCHANTRESS– *pure silk shantungs*
so wonderfully crisp to the touch and most fashion-right to wear. In 26 lovely solid colors that make designer's dreams.

at fine stores

by-the-yard and in ready-to-wear

write to us for store near you.

McCALL PATTERN
No. 7445

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Save TIME, MATERIAL, and MONEY!
13,824 Possible Color Combinations

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TEXTILE DESIGNERS — "a *must* for pattern planning, color synchronization."

MANUFACTURERS — "saves me so much time and effort in standardized color specification and verification."

DYERS AND FINISHERS — "ideal for exact color-matching in plant and showroom, for photo-engraving cameras, new trends."

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ART DIRECTORS — "speeds up original exploratory work . . . saves layout time and effort."

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Sole U. S. Representative British Colour Council

Actual Size 14" x 14" including Satinwood Glass-faced Cabinet Frame

THE ANSWER TO YOUR COLOR PROBLEM!

Manufacturers, Dyers, Finishers, Textile Designers, Textile Printers, Interior Decorators, Retailers, Artists, Students: Save time, material, and money! Please clients and customers! Increase sales! No more need to mix colors, clip swatches, or search magazines — Now *you* can get the correct answer to your color problem *every* time — quickly, accurately, with Color Helm, the *precision* color guide. Color Helm places the entire spectrum at your finger tips, and shows thousands of possible color schemes in a *matter of seconds.*

COLOR HELM WORKS QUICKLY, EASILY

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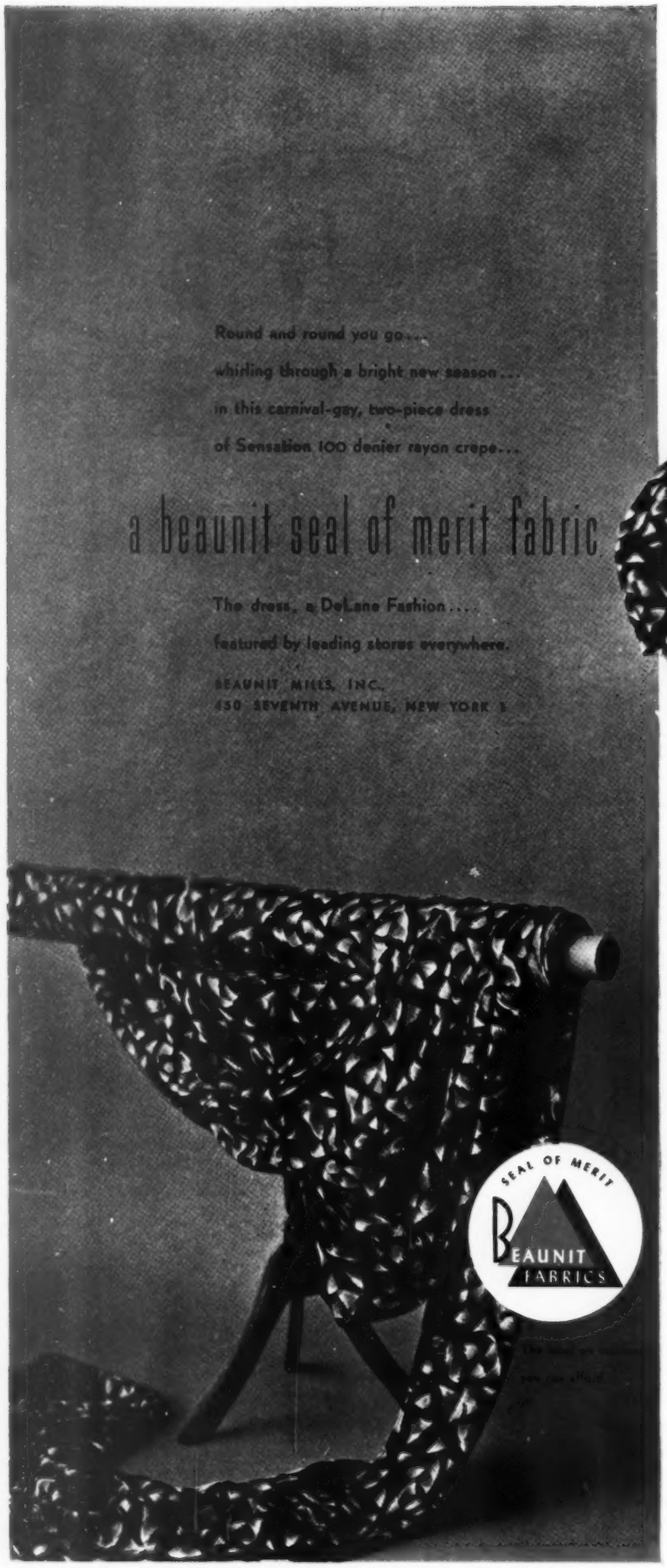

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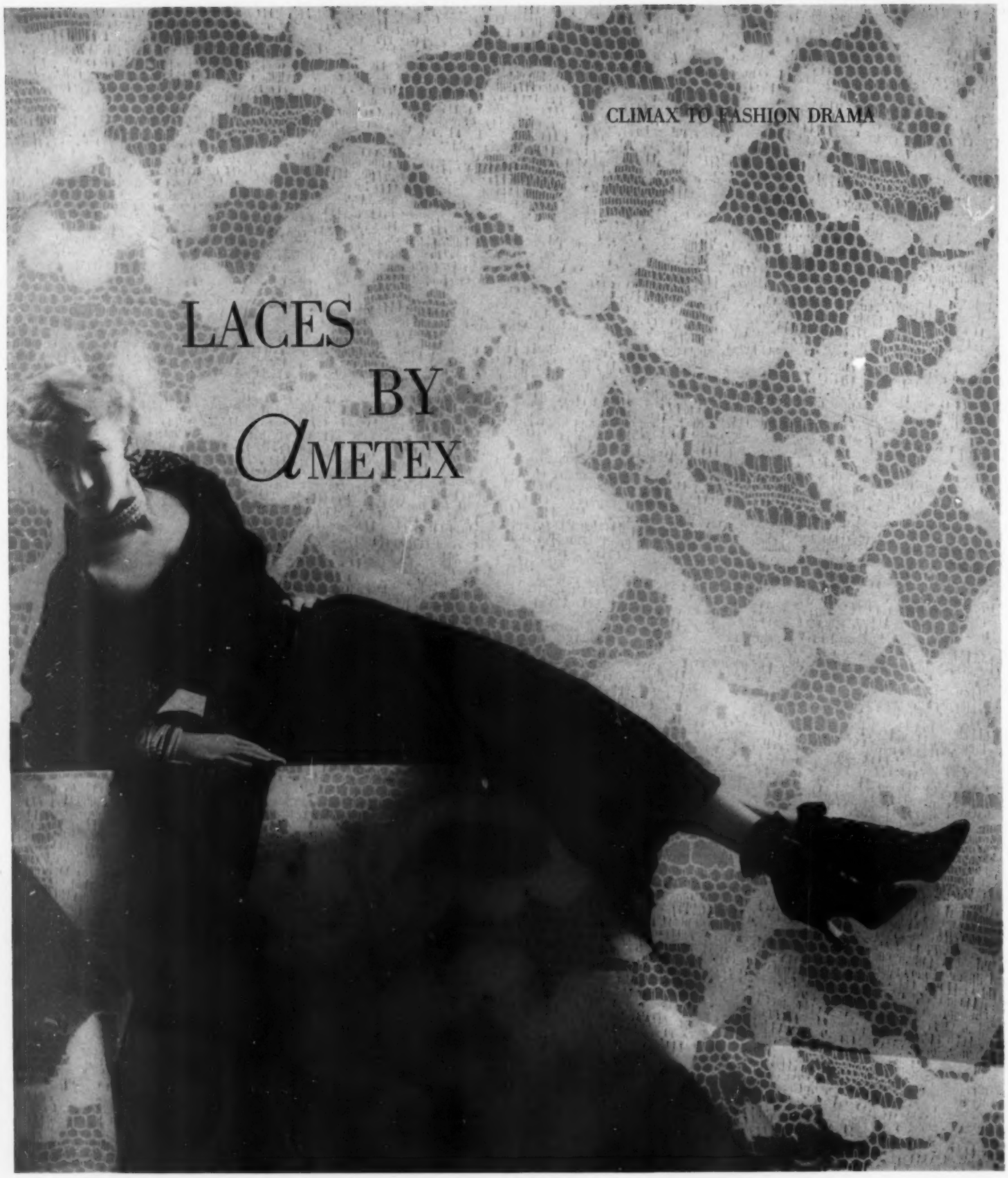

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Detail from a Painting by El Greco

TREASURY OF TEXTILES, PAST AND PRESENT

PART I — THE PAST

By John Goldsmith Phillips, Coordinator
for Industry, Metropolitan Museum of Art

"AMERICAN TEXTILES, '48," the exhibition now being shown in the Metropolitan Museum of Art, is the subject of the leading article in this issue of AMERICAN FABRICS. The present article is concerned with another collection in the same Museum — the Metropolitan's permanent collection of historic textiles.

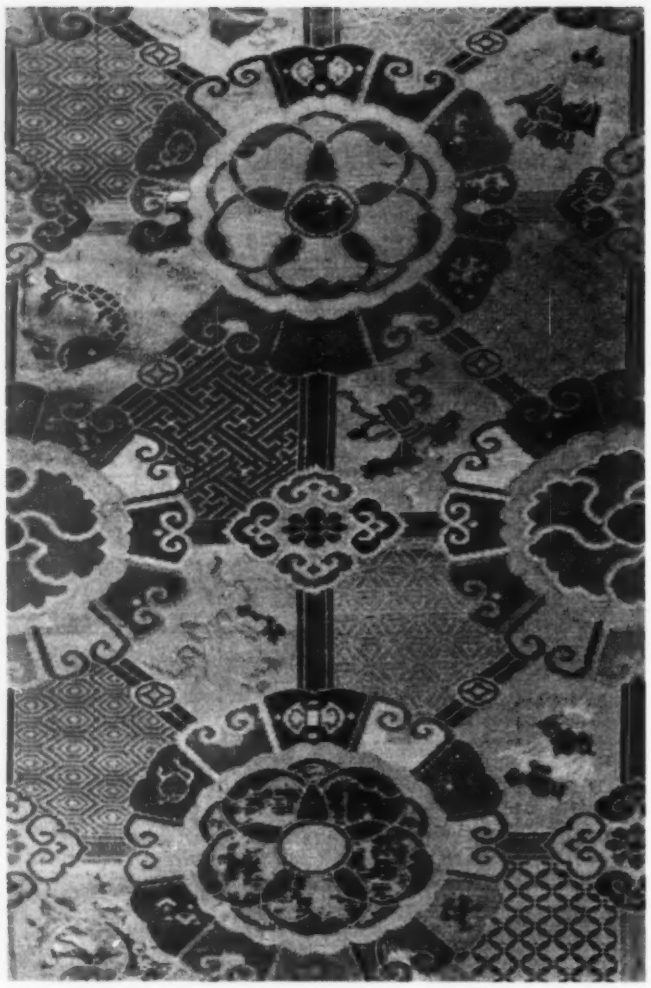
On the occasion of this exhibition of present-day textiles, it is timely to consider the Museum's collection of antique weaves, for the two form a telling complement to each other. And that is as it should be. From the founding of the Museum in 1870, the Metropolitan's Trustees have recognized an obligation to American industry. Long ago they saw the need for a collection that would give the textile industry, which is centered in New York, a sense of historical continuity with its past. Inevitably therefore, the collection has grown enormously, until by now it has attained encyclopedic scope. It has become an Almanack de Gotha for the American textile industry, in which all concerned can proudly discover their antecedents.

Curiously enough, the Metropolitan's textile collection is not as well known as it should be. It has been gathered together quietly and without fanfare, and it has never been shown as a unit in itself. Rather the textiles have been divided among various curatorial departments, and in this divided state serve as exemplars of the artwork of the many great civilizations represented in the Museum. By scattering its riches in this manner, the Museum has seemingly tended to hide its light under a bushel. Few however will quarrel with the Museum's policy, for only in this way could it develop a truly comprehensive display of all the arts.

The Museum has, however, long accorded the textile collection special treatment. The many fabrics which are not seen by the public on exhibition are gathered together in its Textile Study Rooms, where designers, technicians and other representatives of industry, as well as the general public, may study them at close range and under favorable conditions. Effective as it is, this Study Room service nevertheless cannot give the world at large a true conception of the collection as a whole.

If the textiles were all shown together in a single sequence of galleries, the Metropolitan's collection would quickly appear for what it is — one of the greatest in the world, and in a class with such celebrated collections as that of the Musee Historique des Tissus in the Chambre de Commerce in Lyon, the center of France's textile industry. But since it is not shown as a unit, it becomes a matter of importance for the American textile industry to be fully informed about it. And vast as it is, that is no easy matter. Indeed the collection has until now never been described as a whole, although divers phases of it have often been described.

It is high time then that the scope of the entire collection be made public. The Museum's many thousands of textiles can, of course, only be viewed in the broadest perspective. The following illustrated notes, which touch only on the high points, will, it is hoped, give some indication of the wealth and diversity of this great American collection.

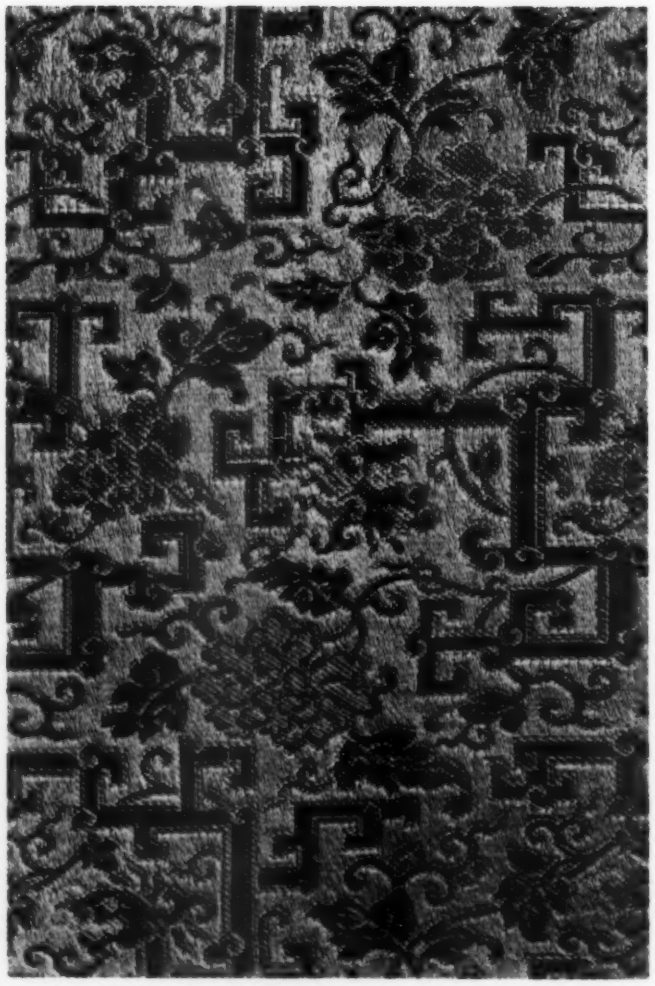


FIGURED SILK, CHINESE, XVI-XVII CENTURY

Silk, cotton, linen and wool are the four classic fibers in the history of weaving. Of these silk has always been the first. Its "silkiness," its affinity for colors, and its adaptability to the processes of weaving, have enabled men to create with it an extraordinary variety of fabrics. Silk was China's gift to the world.

The history of textiles is wrapped in a silken skein. During the centuries intervening between the Han Dynasty, when the earliest existing silks were made, and Pearl Harbor, when silk finally surrendered the leadership it had held for 2000 years, knowledge of silk weaving had spread from China to all the world. From the Orient it passed to the Near East, then to Europe, and finally to America.

China was also the place of origin of the draw-loom and a number of the fundamental weaves, such as twills, damasks, and satins, which are still among the basic weaves today.



FIGURED SILK, CHINESE, LATE XVII CENTURY

The historic movement of the use of silk from East to West is repeated in the types of designs found on silk weaves. On various occasions, Chinese methods of patterning have been a vital force in the development of new designs for the fabrics of the Near East and of Europe. So fundamental was this Chinese influence that the effect of it still persists, although perhaps unrecognized, in the fabrics on the shelves of every shop today.

Skilled as they were in all the fine arts, the Chinese were the masters of many phases of textile design — the abstract, the realistic and the fantastic. The fabric shown here, decorated in the "Peony Hedge" pattern, which consists of detached lattices with interlaced flowers, is an imaginative attempt at combining the abstract forms of Chinese woodwork with the free forms of Nature.

Silk, Tapestry, Chinese, XV-XVI Century

The Metropolitan's collection of Chinese fabrics is one of the most important and extensive groups in the whole world. It contains a number of great rarities, including many robes showing silks put to their original uses. Chinese fabrics of the early periods of silk weaving having largely disappeared, the Museum's examples are nearly all of the Ming and Ch'ing Dynasties, made, that is, since the mid-fourteenth century. They correspond in date with the silks of the great weaving periods in the Near East and Europe, and are in sharp contrast to them.

A class of Chinese silk that has no exact parallel in weaving elsewhere is formed by the many silk tapestries known as k'o ssu. The mandarin square decorated with a mythological beast, which is shown here, is in this technique. The free imagination of the k'o ssu artists, and their bold juxtaposition of fields of color, should provide food for thought for all designers.

Brocaded Silk, Japanese, XVIII Century

Like the Chinese, the Japanese developed the art of weaving in an extraordinary manner. They were masters of all the textiles crafts (such as brocading, embroidering, stenciling, etc.), which they sometimes used in combination. Possessing a sympathetic interest in the whole of Nature and a tendency towards realism, they found in the life around them the subject matter for their textile design. Japanese art has been called "Nature in translation."

The Metropolitan possesses a group of Nō robes used in the ritualistic Nō play, which are of spectacular quality. Less breath-taking, but essential to the collection, are the several thousand examples of textile work which give a resumé of the art during the last four centuries, the period in which most all existing Japanese textiles were woven. The range of their designs — from those based on the useful things about the house to the most poetic floral fantasies — is unlimited.

PAINTED COTTON, INDIAN, XVII CENTURY

Indian textiles are an indigenous development. A hot country, India above all needed light fabrics. Hence it was inevitable that Indians should choose cotton as their particular material. As silk was China's gift to the world, cotton was the great gift of India.

Their cotton cloths are miracles of spinning and weaving. Their methods of decoration (resist-dyeing, block-printing, and painting) are perfectly suited to the material. And their designs, as epitomized by the great tree-decorated wall hangings known as palampores, are carried out in rich and earthy colors. East India Companies once brought many of these cottons to Europe and America; all modern cotton prints stem directly from them.

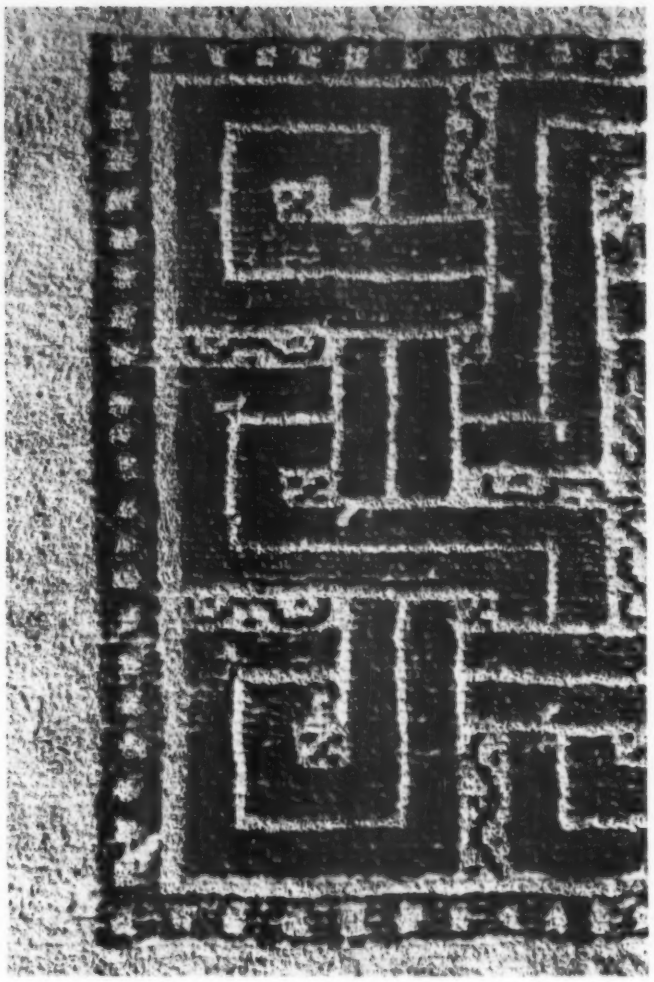
The Metropolitan owns a number of fine palampores, as well as many other interesting cottons of the XVII-XIX Centuries. There are also attractive brocades and damasks, and a brilliant collection of Indian shawls.

PAINTED COTTON, INDIAN, XVII CENTURY

The essence of textile design lies in repeat-decoration which is subject to fixed laws. The size of the loom and its capacity to handle threads are limiting factors. There are just so many variations of motif possible in achieving coherent results. Hence today's designs bear close kinship to the greatest designs of the past.

There are certain exceptions: Chinese k'o ssu weaves, not being worked on a draw-loom, were not held to a repeat. And Indian cottons, with designs applied after weaving, enjoyed a similar freedom. It is significant that when cotton printing developed into an industry in Europe two centuries ago, the decoration quickly became highly pictorial, as were those of India, though remaining within the repeat structure.

This freedom of the cotton designer is a two-edged instrument. Indians succeeded by working within a superb technical and artistic tradition. The modern designer should know this fountain-head of his art.

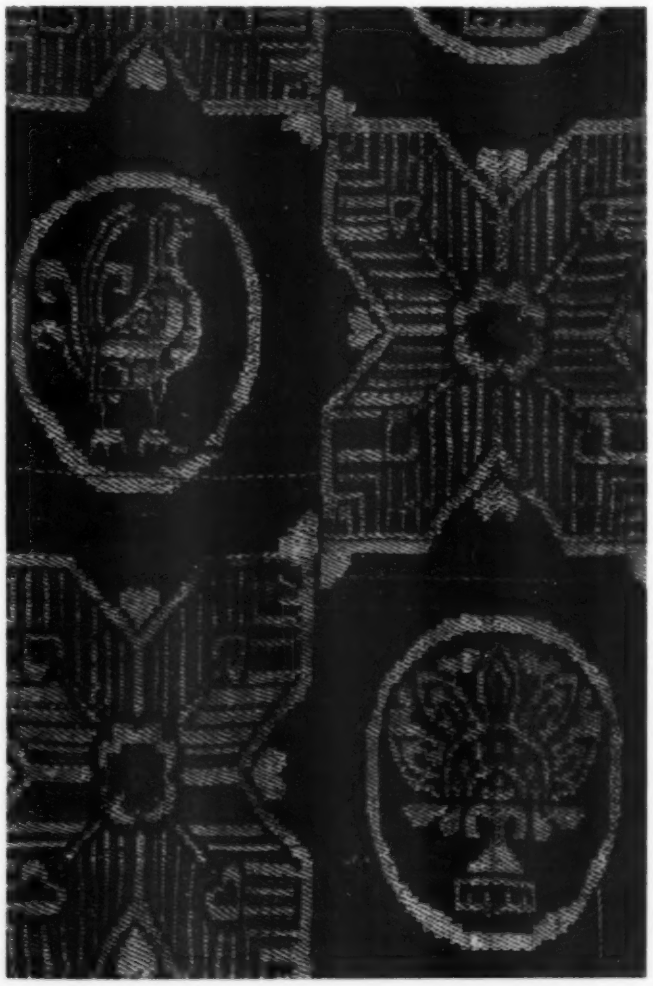


LINEN AND WOOL CLOTH, COPTIC EGYPT IV CENTURY A.D.

Coptic Egypt was a cultural melting pot. After the fall of the last of the Pharaohs, Egypt was ruled by a succession of foreign powers. In time many of the people embraced Christianity, and these Egyptian Christians are known as Copts. Their art was at its finest between the third and fourth centuries, and is an amalgam of that of Egypt, Greece, Rome, and the Near East.

Coptic textiles are simply woven and powerfully designed. Unlike their Sasanian neighbors, who preferred silk, the Copts inclined to the use of wool in tapestry weave, a technique encouraging simplification. Coptic tapestries have a primitive directness that has much in common with certain tendencies in modern art. The piece illustrated is in the looped technique which was later used for American hooked rugs.

The Metropolitan's Coptic collection, one of the most important found in any Museum, is a mine of source material for the textile industry.



SILK TWILL, PERSIAN VI CENTURY A.D.

Knowledge of silk weaving spread slowly from China to the West. Raw silk, which only the Chinese knew how to cultivate (they kept their secret as long as they could), reached Europe by way of long and difficult caravan trails. These trade routes funneled through Persia. During the several centuries of the Sasanian Dynasty, Persians took full advantage of their position astride the routes to work much of the raw silk into fabric. Some of these Sasanian weaves, usually decorated with birds or animals within medallions, later influenced textile design in the West, for they were sent on to Europe where they were prized by emperors and kings.

The Museum's small but choice collection of Sasanian textiles, and of related Syrian fabrics, forms a memorable record of a commerce which in ancient times was the sole link between the West and the almost mythical East.

Brocaded Silk, Persian, About 1600

The rule of the shahs of the Safavid Dynasty (1502-1628), when the finest Persian silks were being woven, marks one of the high points in textile history.

As decoration, Safavid silks are superb. Their designs, usually formed of flowers or personages, are spirited and realistic — a far cry from the conventional style of the earlier Sasanian age. Their colors, wide in range, seem always luxurious and never blatant. Even in this age of modernism, Safavid textiles strike a modern note.

The Metropolitan's many fine examples of this period constitute a strong and well-balanced collection of which any great institution would be proud. The piece illustrated is a typical Safavid silk, finely woven and vigorously designed. Its realism, unlike that of the later floral silks of France, which indeed were influenced by Persian models, is tempered by formality and makes no concession to effects of light and shade.

Figured Silk, Persian XVI Century

Among the achievements of the Persian textile designers, one of the more notable was the frequent and successful use of the human figure.

The human figure has long been a problem for textile designers. The mechanical limitations of the loom, and the aesthetic restrictions of repeat decoration have made the solution to the problem no easy matter. For that reason motifs taken from the diverse and colorful world of botany have generally been preferred in the great civilizations of the past. It is still the case today.

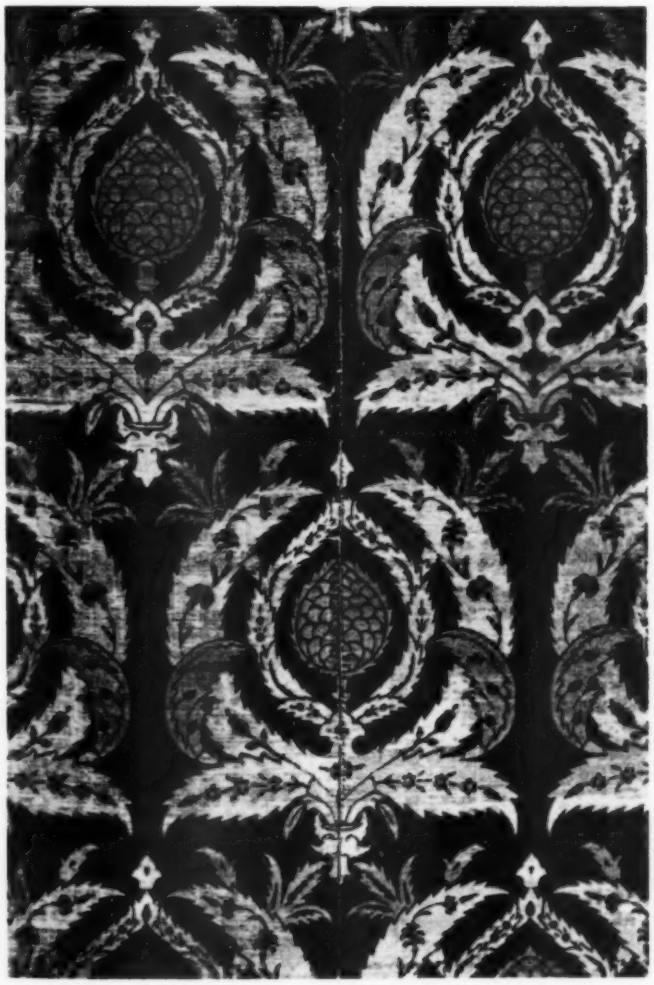
Persian designs with figure subjects (usually inspired by great national epics such as the Shah-namah, or from some romantic poem) are of importance to the textile industry in that they show how the figure can be treated with movement and realism and still remain securely a part of the larger harmony of the design structure.

BROCADED VELVET, PERSIAN, XVII CENTURY

What elements go into the making of a textile? There are four: content (the kind of fiber), construction (the type of weave), color and pattern. Content and construction can play as much a part in the total effect as color and pattern.

In the great periods of the past one of these four elements has generally taken precedence over the others. The fabrics of the Persians were preeminent for their construction. No group of weavers ever achieved more sumptuous and diverse effects by means of exploiting the possibilities of the loom. Involved brocades, twills, satins, double-cloths and velvets were the Persian order of the day.

In our time fabric construction is fairly simple. But as for content, ours is without doubt the most extraordinary period in all weaving. Laboratories have developed numerous man-made fibers which take their place with the classic fibers of old; more are yet to come.



BROCADED VELVET, TURKISH XVI CENTURY

From the fifteenth to the seventeenth century Turkey was one of the world's great powers, her Ottoman Empire at its height reaching from Persia to Hungary. All her arts flourished, and among the first of these was weaving.

Unlike the Persian silks, which they closely resemble, Turkish brocades always show floral designs, their motifs usually being either the carnation, tulip, hyacinth or rose. Nearly two centuries later Italian and French designers were to turn to similar themes in a similar way. And our own designers have found in Turkish silks a fresh source of inspiration.

Turkish velvets are of another order of design: larger, more stylized, and more emphatic. Many of these were made for export to Europe, a fact that may account for the western influence that often seems to mark them.

As might be expected, a number of fine Turkish brocades and velvets are included in the Metropolitan's collection.

FIGURED SILK, HISPANO-MORESQUE, XIV-XV CENTURY

Since the first days of silk weaving in the West, European textile design has ever and again gained from the experience of the Near East. The deep well of oriental inspiration has in fact never dried up, and still remains to serve the designers of our time. In this light the Metropolitan's collection of Near Eastern fabrics takes on added significance.

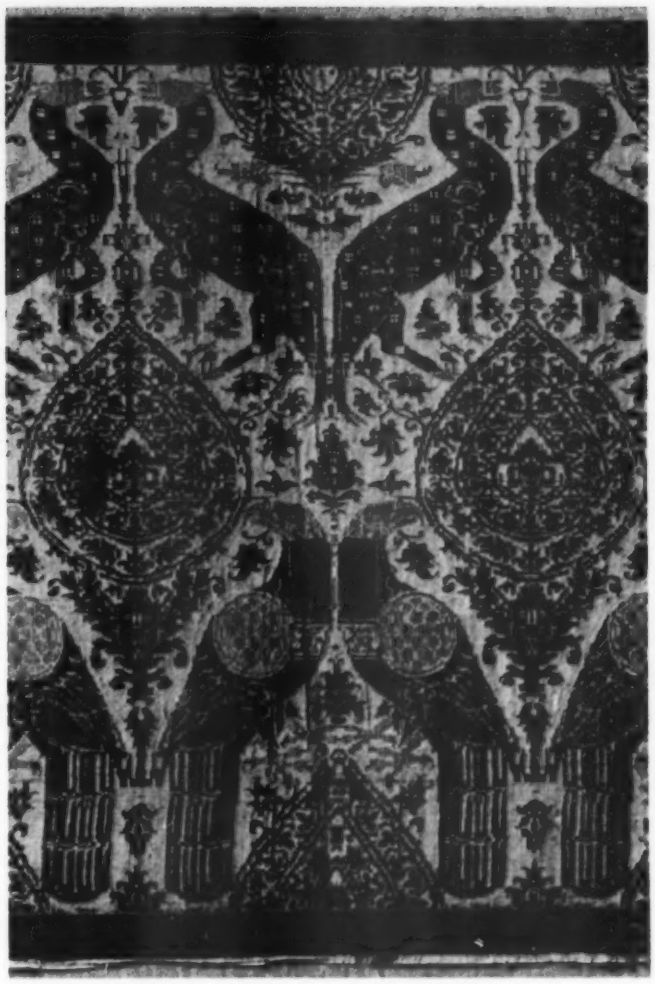
More than any other country in the West, Spain is indebted to the East. She was long ruled by Arabs and Moors who brought weavers' skills and Mohammedan styles to Spain with them. Later when the East had ceased to be a power, Spaniards turned to Italy and then to France for design inspiration.

Despite these external influences, Spanish textiles always remained essentially Spanish. Fabrics are a true mirror of Spain's shimmering culture, and the reflection is clear in the Metropolitan's fine and representative collection of them.

FIGURED SILK, SPANISH, XVI CENTURY

The satin (above), a classic Hispano-Moresque fabric, should be of special interest to modern designers. Its decoration differs from that of the silks of almost all other periods in being entirely formal and un-naturalistic. This particular example is in what is known as the Alhambra style, recalling with its arabesques and geometric interlacings the decoration of the renowned Moorish palace in Granada, the city where it was probably woven.

The Spanish figured silk (opposite) contrasts vividly with the Hispano-Moresque piece. During the interval between the weaving of the two silks, the Moors had been expelled from Spain, which had become a great western nation. Culturally, Spaniards affected Italian styles, as is shown in this textile by the inclusion of an Italianate fountain motive. If this silk lacks the assured harmony of Italian work, it shows in compensation a lively freedom and imagination in the turn of the design.



BROCADED SILK, ITALIAN, ABOUT 1300

America's cultural background being Europe, it is fitting that European fabrics should form the heart of the Metropolitan's textile collection. Since as civilizations go, that of Europe is not only comparatively recent but still very much alive, the Museum has been able to amass a group of weaves of high quality and great variety. It is truly one of the great storehouses of European fabrics.

The strength of this collection is where it should be: in Italian and French materials. The Italians and French were, as they still are, the great weavers of Europe.

The brocade shown here is an early Italian example, woven either in Palermo or Lucca about the year 1300. Its abstract style shows a dependence on Byzantine and Near Eastern patterns. It was on the basis of fabrics of this sort that the later textile art of Italy developed.

BROCADED SILK, ITALIAN, XIV CENTURY

The field of European textiles is vast and varied. Just as in Asia there are Chinese, Japanese, Indian, Persian and Turkish textiles, there are corresponding groups from Italy, France, England, Spain and other countries of Europe. The fabrics of these several European nations differ greatly from one another. And, because of rapid cultural changes in Europe, wide variations also appear within the textile art of each nation. In the Italian group, for example, the Museum owns silks in various contrasting styles such as the gothic, renaissance, baroque, rococo and neo-classic.

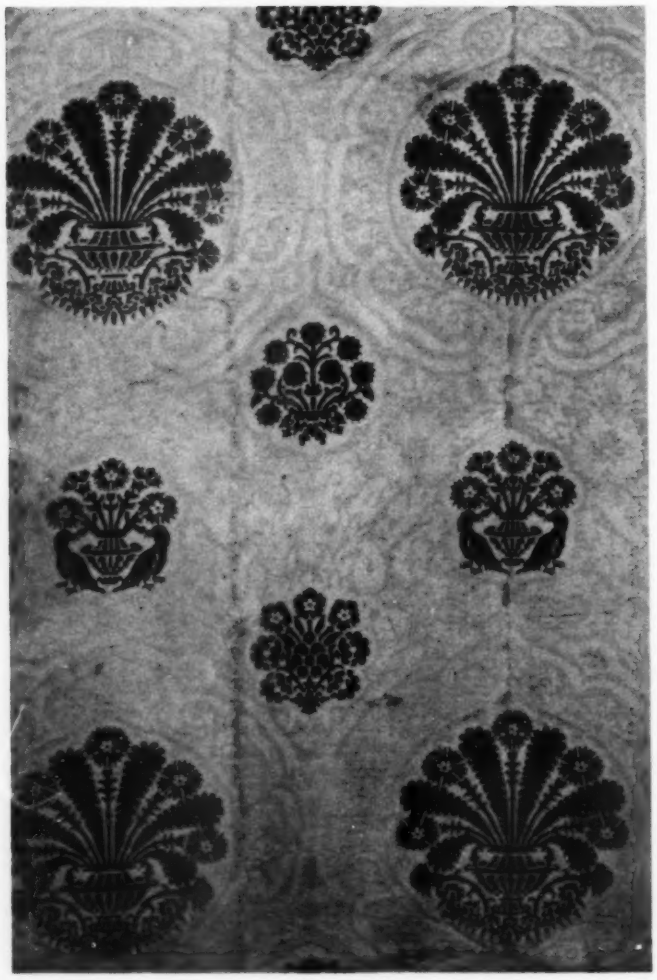
The textile shown here is of the late gothic period; its pattern is of a new order, developed seemingly on the basis of Near Eastern and Chinese inspiration. Novel bird and animal motifs, vigor of design, and a flair for the fantastic, make silks of this type outstanding among textiles of any age.

Brocade, Italian, First Half of the XV Century

For many years the Metropolitan has been especially rich in Italian weaves of the XV Century. Two years ago the Museum added strength to strength by purchasing one of the greatest private collections of such fabrics that has ever come upon the market. Since Italian weaves of the XV Century reached heights never equaled in luxury and never surpassed in design, the importance of this key group for the Museum's textile collection is obvious.

The great Italian weaving centers were Florence and Venice, and all of Europe was the market. Wherever there was great wealth, Italian silks were worn. They were supreme luxury items, like some gorgeous furs of our own day.

The textile shown here is typical. Although daringly composed on the diagonal, its design is perfectly balanced, developing with an inevitable precision and elegance.

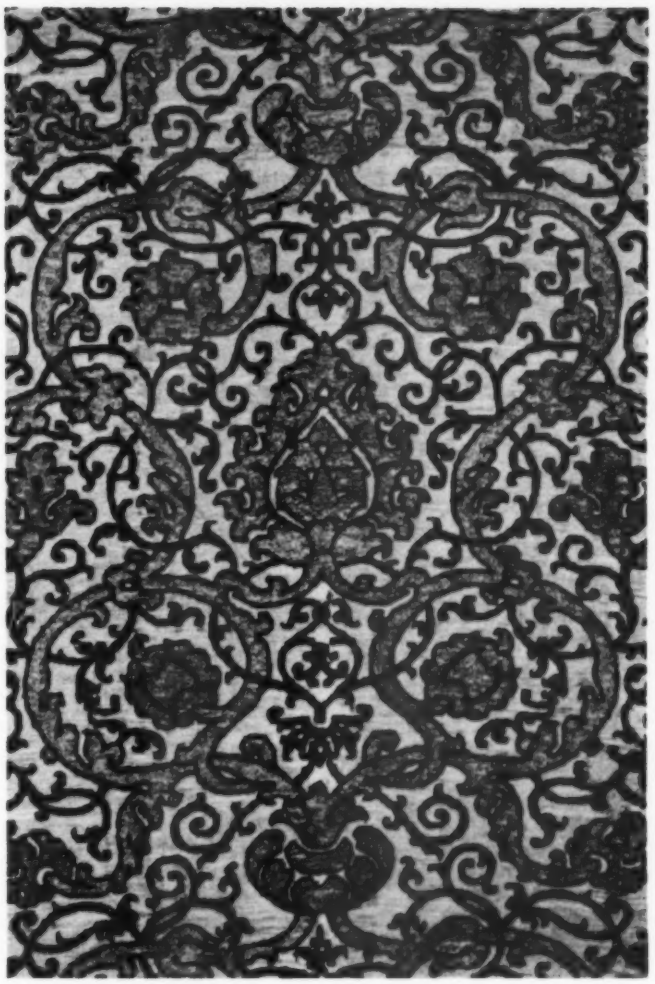


Brocaded Damask, Italian, Second Half of the XV Century

Painting, sculpture, and a number of the minor arts, such as ceramics and metalwork, showed close affinities of style throughout the course of Italian art. Since these arts generally had to do with the decoration of the interiors of buildings, an architectonic note was often in evidence.

Textiles were a class apart. Their chief use was not the decoration of buildings, but the clothing of men and women. So it happens that in the XV Century — when Italy gave the world the Renaissance — textile decoration showed little that can be definitely labeled "Renaissance." As seen by the example shown here, designs appear rather to be deluxe reissues of styles that had originated in the Gothic tradition.

This offers a moral for today's weavers and consumers. There need be no feeling of anomaly in our continued use of patterns of another age, such as the ever popular XVIII-Century floral designs.

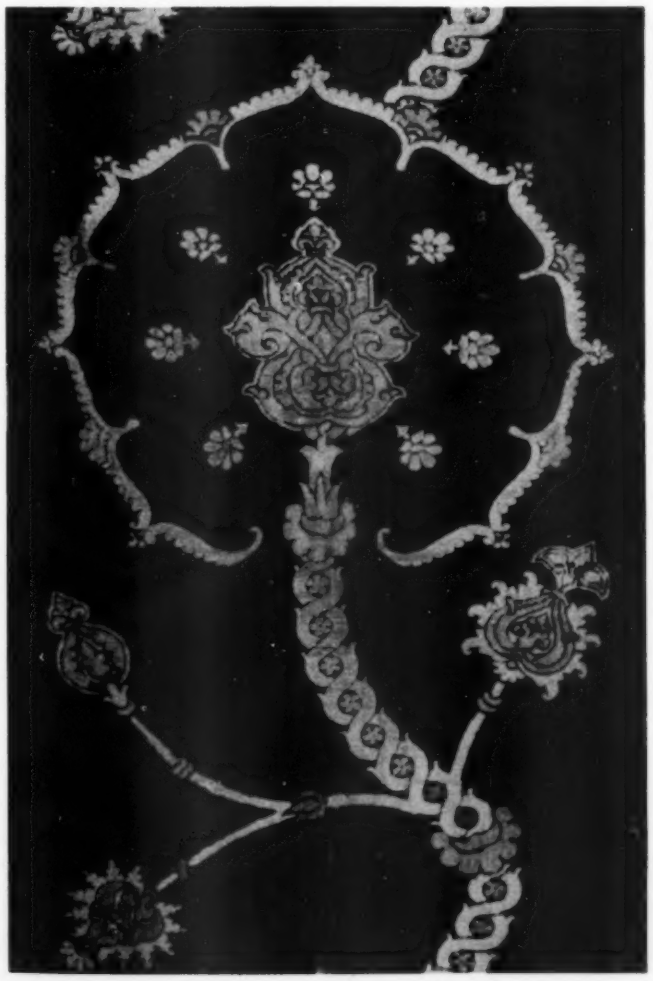


Brocaded Velvet, Italian XVI Century

This magnificent specimen of Renaissance weaving depends for its effect on two contrasting techniques, metal-brocading and velvet. The background and the basic arabesque of the pattern are worked in two types of metal thread; the minor arabesque of the tendrils is in red velvet. The velvet gives depth of color; the metal, golden richness.

Metal threads, so favored during the Renaissance, have a long history of their own. They have enriched many of the world's fine silks. Used first in China during the early days of silk weaving, they later served weavers of the Near East and of Europe. During the last century high costs have made their general use unprofitable.

The American textile industry has recently developed new types of thread which once again make practical metal brocading on a wide scale. Judging from the past, today's weavers will take full advantage of the new opportunities offered them.

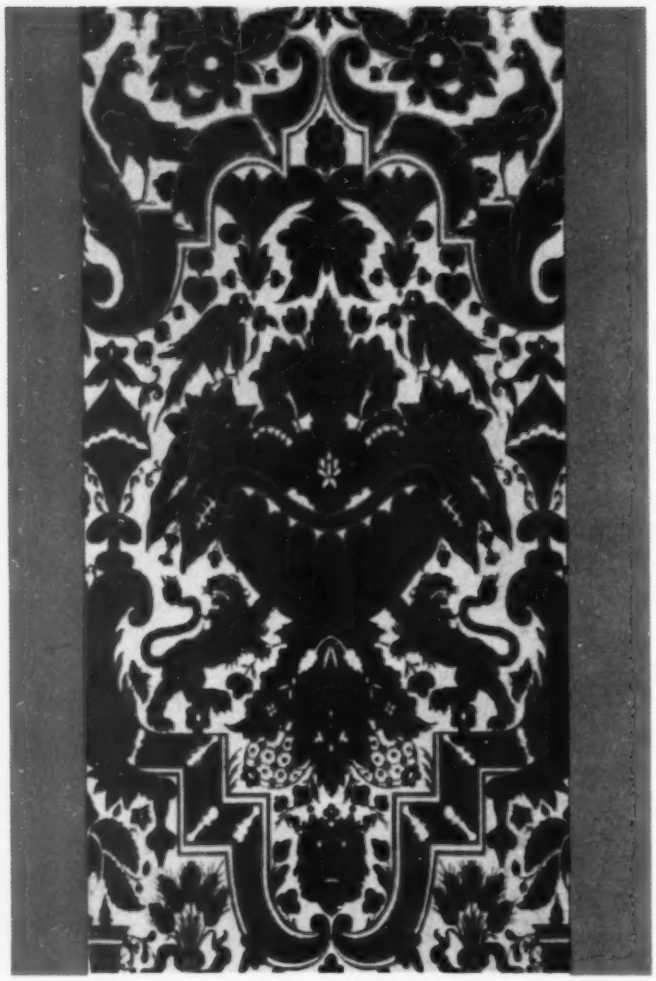


Brocaded Velvet, Italian, Late XV Century

Although Italians of the XV Century developed many gorgeous patterns, they lavished their inventiveness most generously on one type of design. This was the celebrated pomegranate, or artichoke, pattern. Of Near East origin, this pattern was transformed by Italian genius into a novel motif that blended harmoniously with the styles of both late Gothic and Renaissance art.

The pomegranate design was developed in countless ways, from the simple to the most involved. The textile shown here represents this pattern at its most sumptuous. Its lengthy repeat is worked in wine-dark velvet in two heights of pile, with details highlighted by the lavish use of gold thread.

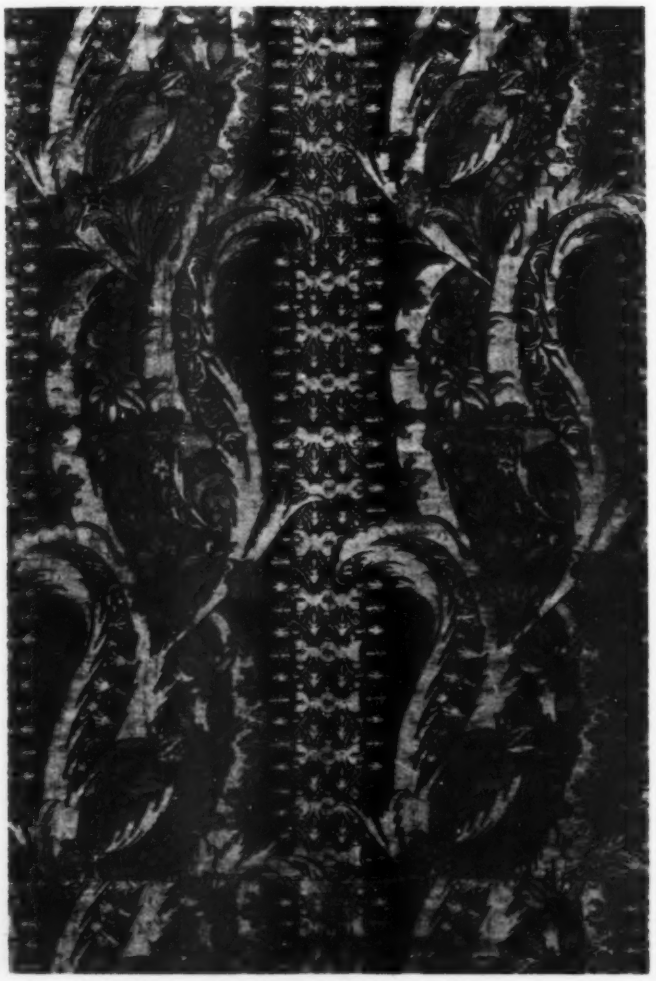
Fabrics of this type are generally assigned to the Venetian looms, for in textiles as in the art of painting, the sensuous Venetians found their true expression in effects of splendor achieved through color.



Velvet, Italian, About 1700

The use of specialized drapery material dates from the baroque XVII Century. In Italy of the XV Century, clothing was simply fashioned, and large textile patterns were the rule. Interior decoration was not crystalized into formal canons, and the same fabrics used for clothing were on occasion used for wall hangings.

In the XVII Century the old order was changed. Architects planned buildings as complete entities, the interiors the logical counterparts of the exteriors. Spacious rooms were formally decorated in the classical taste. XVII-Century clothing on the other hand was intricately tailored, and demanded small-scale patterns. As fabrics so decorated were clearly inadequate for interior decoration, a new type was born, of which the damask shown here is a characteristic example. Its great-scaled design is developed with architectonic intent, appropriately, since it covered the walls of an Italian palace. Fabrics of this type are among the ancestors of the present-day upholstery material.



Brocade, Italian, XVIII Century

Venice, the last of the great Italian weaving centers, had for centuries given Europe its most authentic expression of luxury. The Orient and Occident joined forces in Venice, and the result, as shown by her rich Renaissance velvets, was opulence and more opulence.

With the decline of Venetian political power in the XVII Century, this splendor gave way to glitter, for the city had become the rococo Monte Carlo of Europe. Fêtes, carnivals and masquerade balls were now the regular Venetian fare. And to establish the proper background, Venetians created a new style, unique in textile art. Colors and patterns inspired by the East, and evoking the fantastic spirit of some late Gothic silks, were combined into surrealist fanfare. Their designs, like carnival sky-rockets, exploding over the Grand Canal, are typified by the piece illustrated, one of the many in the Museum to portray this fabulous style.

Figured Silk, French, Mid-XVIII Century

Throughout the XVIII Century almost every French silk was consecrated to the natural beauty of flowers. This vivacious but well-disciplined style was new to textiles. It arrived with revolutionary impact when the silk industry in France, discarding the styles that had come from Italy in the previous century, set up standards that were as French as the Rue de la Paix.

Such a floral style could not have been created in an earlier age. It was only in the XVIII Century that botanical research, made under the leadership of Linnaeus, gave men a true understanding of flowers. Significantly, just as painters and sculptors learn from human anatomy, the textile designers of France studied the anatomy of flowers.

The example here illustrated designed by the celebrated Philippe de Lasalle, is one of the countless floral silks in the Metropolitan's collection. Silks so close to present-day styles merit the closest study.

Figured Silk, French
First Half of the XVIII Century

There are moments in the history of textiles when all that weavers and designers produce seems to be touched with magic greatness. One such period was the XV Century in Italy; another was the XVI Century in Persia. XVIII Century France belongs in this rare company.

In France this came about by no accident. The silk industry, which was centered in Lyon, prospered as a result of the support and guidance of a paternalistic government. So intelligently conceived was this French policy that even today French weaving reflects the direction given it nearly three centuries ago.

The Metropolitan's magnificent collection of French silks vies with those found in the great museums of France. It includes examples of the varying French techniques and styles, and characteristic works by the principal designers. The piece illustrated is by Jean Revel, one of the great French textile artists.

Figured Silk, French, Mid-XVIII Century

This attractive silk, decorated in the Chinoiserie style fashionable during the XVIII Century, is from a collection of rare French weaves given to the Metropolitan by one of the country's leading textile firms, the United Piece Dye Works. Gifts such as this of the United Piece Dye Works are the very foundation of the textile collection. Through the years there have been many donors of textiles, ranging from William Christian Paul, an obscure insurance clerk, whose miraculous series of court robes adds enormously to the Museum's showing of Chinese fabrics, to J. Pierpont Morgan, from whom came many fine European weaves.

Supplementing the gifts are the purchases which have enabled the Museum to keep the entire collection in balance, and maintain an uninterrupted growth. Purchases, of course, are made possible by funds given the Museum by individuals and organizations.

Brocade, French Early XIX Century

One of the chief causes contributing to the primacy of France in silk weaving was technical. The XVIII Century being an age of scientific investigation, and weaving one of the great French industries, the loom was subjected to profound study.

A major technical development was the use of *point rentré*, a system making possible a heightened interplay of colors on the loom. Only by means of point *rentré* could floral designs be woven naturalistically in full light and shade.

Another development was the general use of the *mise en carte*, the design which the artist set down on graph paper. Since each line of the graph paper had its equivalent thread on the loom, this device put the designer in immediate rapport with the weaver. With its adoption European designers came to the fore for the first time as creative artists. Among them were such masters as Revel, Pillement, Lasalle and Huet.

VELVET, ENGLISH, EARLY XVIII CENTURY

Woven at Spitalfields, a district of London, this fabric is a splendid example of English workmanship. Its large-scale repeat, based on French and Italian models, has a massiveness appropriate in English decorative schemes.

Silk weaving became prominent in England by virtue of a French decree, the Revocation of the Edict of Nantes in 1685, which drove many Huguenot weavers to England. This was not the first time that mass movements of weavers had enabled new industries to rise. Weaving became a major art in Palermo in the XII Century when workers were carried there from Greece. In the XIV Century silk weaving became an important industry on the Italian mainland when workers were brought from Palermo to Lucca. Florence in turn profited by a subsequent migration of weavers from Lucca. And so on.

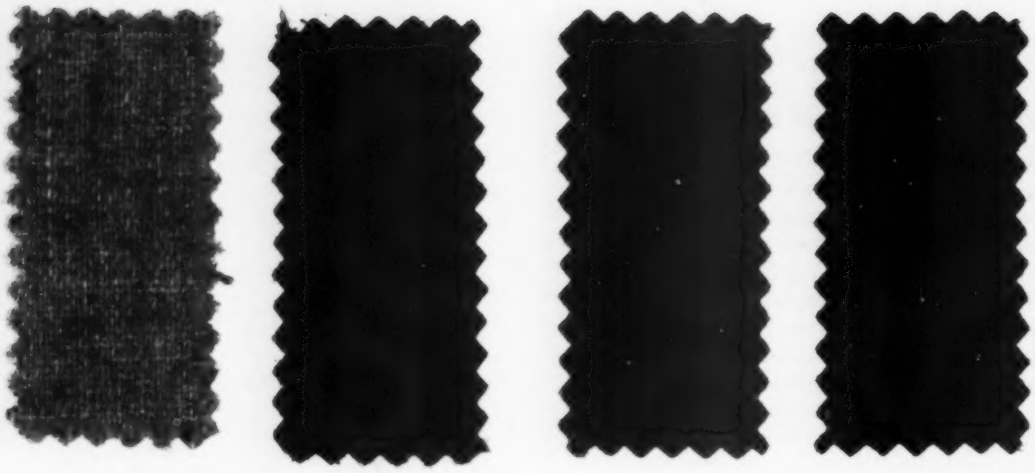
All this underlines the crucial role played by the skilled artisan in the creation of a sound textile industry.

BROCADE, RUSSIAN, EARLY XIX CENTURY

During the XVIII century, Russia began to act the part of a western nation. Russians ordered many silks to be woven for them in Lyon; many other silks, such as the one illustrated, were made by Russian weavers. As the Metropolitan's collection of these fabrics shows, French elegance was combined with Russian garishness.

In this brief pictorial review of the Museum's collection, certain categories of textiles have been neglected altogether. Among them: Pre-Columbian fabrics of Peru; European and American printed cottons; European and American fabrics woven since the Jacquard loom made weaving a modern industrial art. Space does not permit a description of these and other categories. Nor can the Museum's collateral textile material be described: laces, embroideries, rugs, tapestries, costumes and accessories.

Nevertheless all these many groups together give the textile collection its supreme importance for the world of art and the textile world. And, fittingly enough, the Metropolitan's collection of contemporary American textiles carries the story up to the present time.



TREASURY OF TEXTILES—PART II . . . THE PRESENT

Pointing up textile manufacturing as creative art, the Metropolitan Museum of Art will present, beginning November 24th, a full wing exhibition of contemporary American textiles.

Visitors to the Metroplitan Museum of Art's exhibition, commencing November the twenty-fourth, of "American Textiles of '48," will see visible evidence of a great industry.

Although the exhibitors number slightly more than 100, they embrace practically every known weave and fabric concept in the field of textiles. Indeed, never has the diversity and ingenuity of the American textile industry been so well exemplified as in this exhibition. Chosen by a committee consisting of officials of the museum staff, the exhibition is being staged in collaboration with AMERICAN FABRICS, and will in all probability travel to other parts of the United States for showing.

We suggest an early visit to the Metropolitan Museum to see this important show. For a preview performance, please turn to the following pages. The names of selected exhibitors follow:

American Cyanamid Co.
American Silk Mills
American Woolen Co.
Ameritex
Avondale

Bates Fabrics, Inc.
Arthur Beir & Co., Inc.
Belding Heminway Corticelli
Bellman Brook Bleachery Co.
Berkshire-Cerey Co.
Joseph Berlinger Co.
Blue Bird Silk Manufacturing Co.
Milton C. Blum, Inc.
Botany Mills, Inc.
Bourget, Inc.
Brighton Mills
Brunschwig & Fils
Bulkley, Weinberg & Tormey, Inc.
Burlington Mills Corp.

California Handprints, Inc.
Cantor Greenspan Co., Inc.
Cheney Brothers
Chicopee Mfg. Corp. of Georgia
Cohn-Hall-Marx Company
Cone Mills Corporation
Couture Fabrics, Ltd.
Crompton-Richmond Company, Inc.
Celanese Corporation of America
H. A. Chauvin-Combier, Inc.

Dan River Mills
Deering, Milliken & Co., Inc.
C. M. De Land
The Dobeckmun Co.
Dorset Fabrics Inc.
Draper Brothers
F. Ducharne Silk Co., Inc.
Dumari Textiles

Everfast Fabrics, Inc.

Farnsworth Woolens
Foreman Co., Inc.
Forstmann Woolen Company
Frankly Fabrics Corporation
Fuller Fabrics

Galey & Lord, Inc.
Henry Glass & Co.
Goodman & Theise, Inc. (Stafford)
C. M. Gourdon Inc.
Greef Fabrics, Inc.
Greenwood Mills, Inc.

Hafner Fabrics Corp.
Hess, Goldsmith & Co., Inc.

Jofa, Inc.
Cyril Johnson Woolen Co.
A. D. Juilliard & Co., Inc.

Kluger, Inc.

Lankenau Co., Inc.
Laverne Originals
Lehman-Connor, Inc.
Lonsdale Co.
Louis D. Levine
Lorraine Manufacturing Co.

Merrimack Manufacturing Co., Inc.
Martin Fabrics
Miron Mills

National Mallinson Fabrics Corp.

Onondaga Silk Co.
Owens-Corning-Fiberglas Corp.

Pacific Mills
Pedigree Fabrics, Inc.
Pepperell Manufacturing Co.
Ponemah Mills

Reeves Brothers, Inc.
Regency Fabrics, Corp.
Remond-Holland, Inc.
Renoir Fabrics, Inc.
Robaix, Inc.

St. George Textile Corp.
F. Schumacher & Co.
Sea Island Mills
Shamokin Woolen Mills, Inc.
Sheerr Brothers & Company
Shelhar Fabrics Corp.
Wesley Simpson Custom Fabrics, Inc.
Skillmill, Inc.
William Skinner & Sons
Stehli & Co., Inc.
J. P. Stevens & Co., Inc.
H. J. Stotter, Inc.
Pola Stout, Inc.
Stroheim & Romann
S. Stroock & Co., Inc.
Strong, Hewat & Co., Inc.
Stunzi Sons Silk Co., Inc.
Susquehanna Mills, Inc.
Schwarzenbach Huber Co.

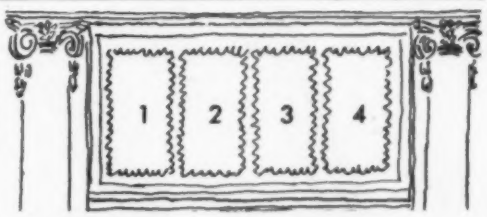
Tennessee Eastman Corp.
E. F. Timme & Son
Tuller Fabrics Corp.
Textron
Turner Halsey Co.

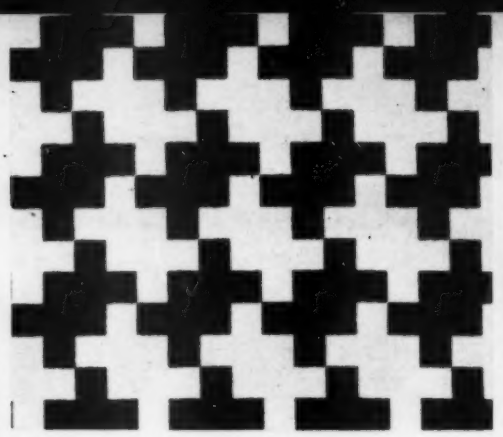
United Piece Dye Works
Unique Fibers, Inc.

Vanetta Velvet Corp.
Vanity Fair Mills, Inc.
Verney Corp.

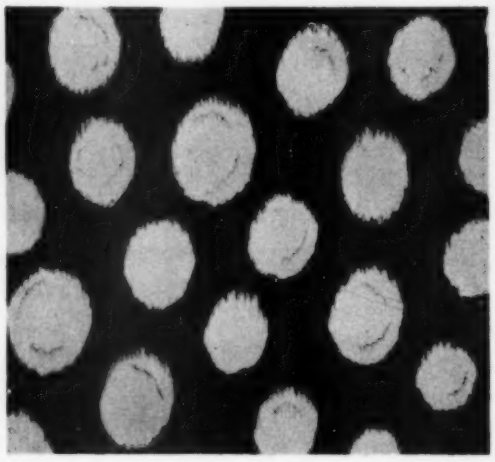
John Walther Fabrics, Inc.
Wechsler Fabrics Company
Martin Weiner Co.
Wellington Sears Co., Inc.
Julius N. Werk
William Whitman Co., Inc.
Worumbo Manufacturing Co.
I. A. Wyner & Co., Inc.
Whitcombe McGeachern & Co.

Description of the swatches on the opposite page: Number 1: is Milliken's novelty tweed in distinctive colorings. Number 2: Second from left is Mallinson's nylon and cotton iridescent taffeta in rich, deep shades. Number 3: Third from left: A rayon and acetate blend by Hoffman of California, in Desert Rock colorings. Number 4: At right: Printed rayon crepe styled by Lee Sherman for Frankly from Tehuana Indian party dresses.

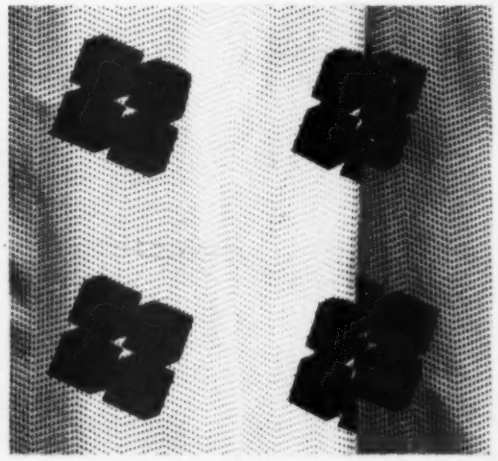




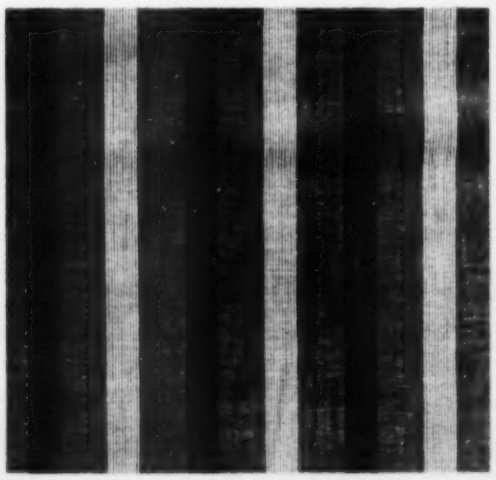
Ducharne Silk Company's "Square Laine," one hundred percent wool cloth designed in a geometric.



Wechsler Fabrics' iridescent printed taffeta of viscose rayon and acetate rayon, designed by Rich.



Goodman & Theise (Stafford) tie silk fabric, design by Don Reed, technical execution by Knuessi.



Henry Glass: "Peter Pan" . . . a dobby satin woven broadcloth with cord decoration. Pre-shrunk and guaranteed fast color.

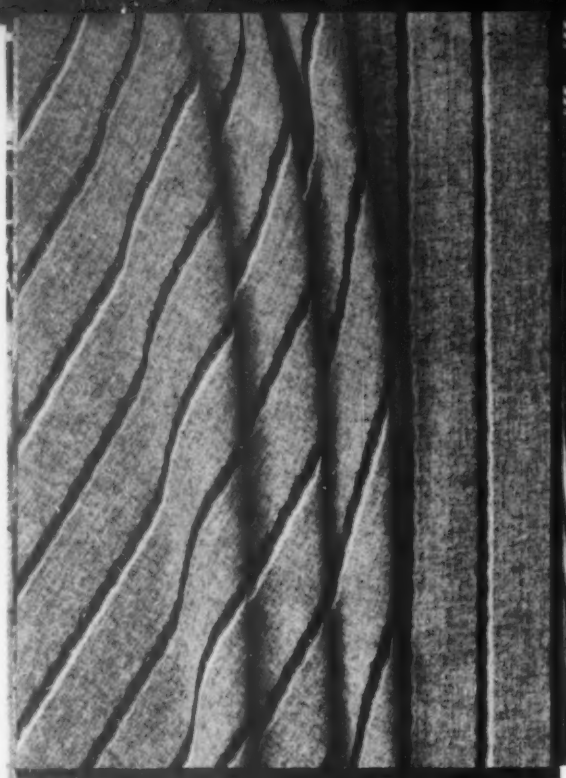
Above left: Calligraphic rayon crepe print, Persian inspiration, by Hess Goldsmith.

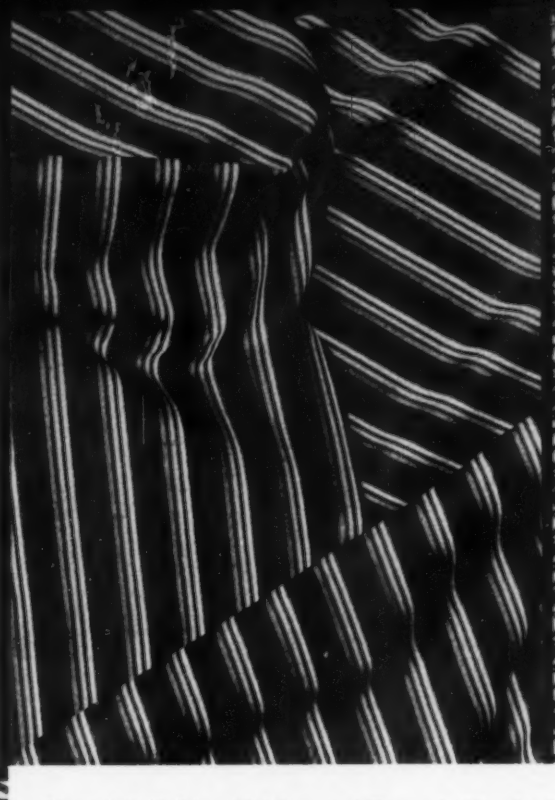
Second from left: John Walther's crepe weave tweed woven with worsted and rabbit.

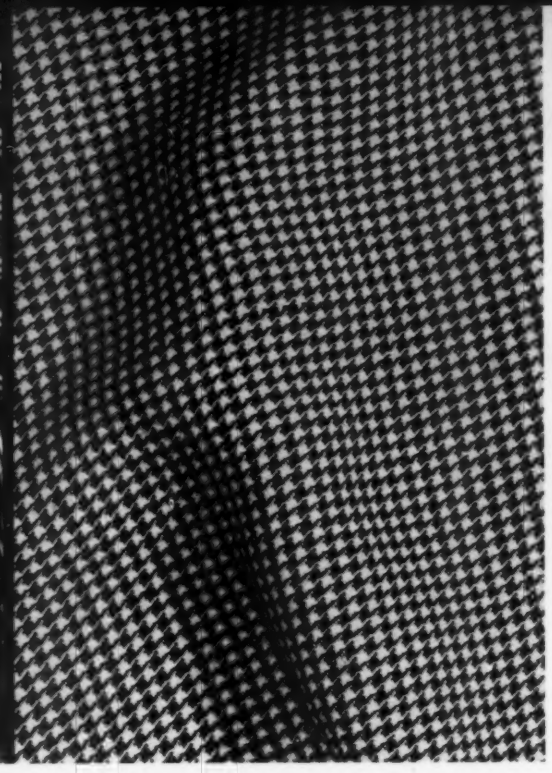
Third photo above . . . Bemberg rayon fabric woven by Hafner . . . inspired by medieval motif from Museum tapestry.

Nubby town-and-country-type wool tweed in nature coloring by Berkshire-Cerey.

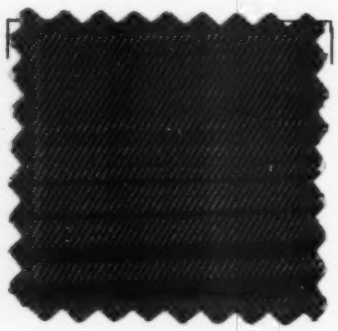
Background photo . . . Martin Fabrics' iridescent velvet of silk and filament rayon.





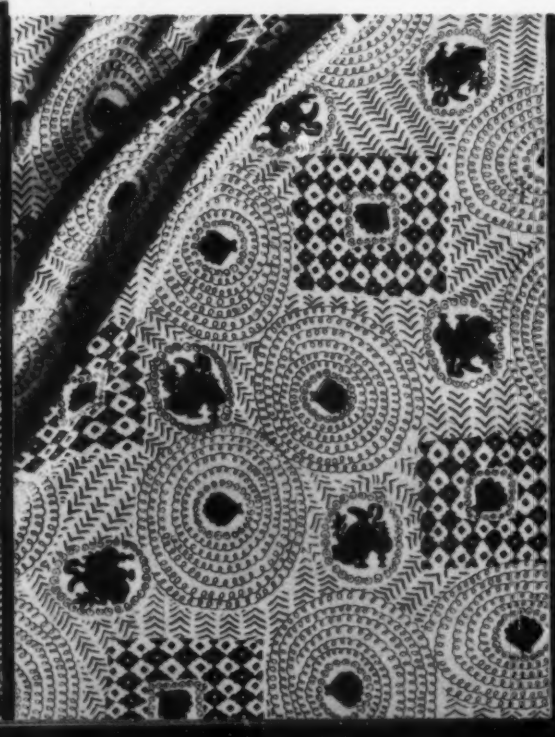


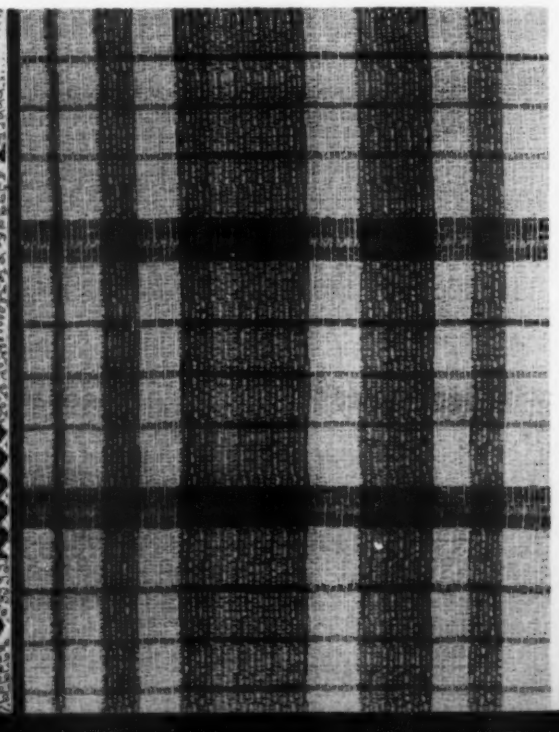
Above left: Bulkley, Weinberg and Tormey's "Greylag," an all-wool zephyr stripe. Above center: Miron's virgin wool with twill background and ombré stripe warp flush, for basic worsted suitings. Above right: Lankenau's Hi-Check, an all-rayon sportswear fabric that is crease-resistant.



The swatches above: At left, Pedigree's multi-filament crepe of Narco rayon sanforized for minimum shrinkage. Center, Dan River's 2-ply cotton plaid with Zelan and Wrinkle-Shed finish. At right, Couture's pure silk crepe print created by Stephanie Cartwright.

At left: Bourget's French designed print by Jean Godart, woven of one hundred denier American Enka yarn. Below left: Arthur Beir's A.B.C. "Clic-a-doo," an all cotton sanforized print adapted from an old calico. Below center: Stotter's pure silk crepe, design stems from a centuries-old Coptic motif. Below right: Shamokin's iridescent one hundred percent tweed homespun in bold plaids.



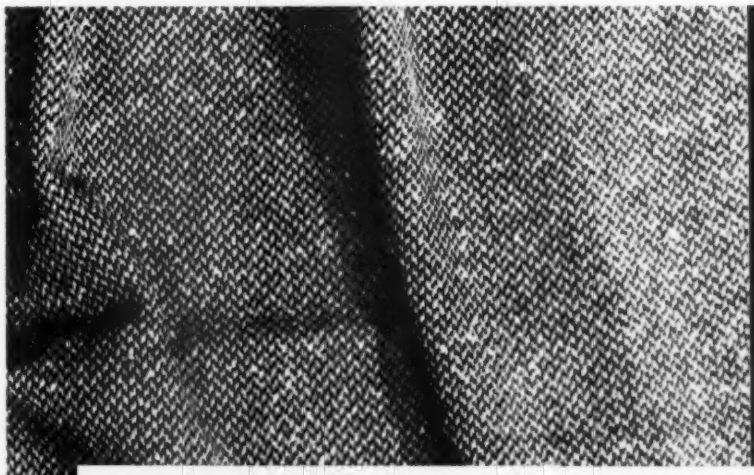


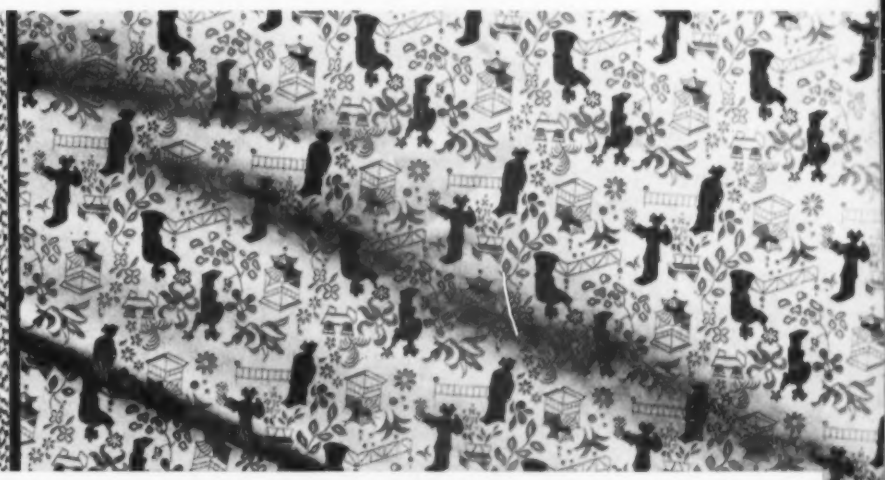
Renoir's pure silk with elegant Horn-of-Plenty motif.

Cyril Johnson's wool twist covert coating richly textured in classic colors.

Farnsworth's all-wool Mackenzie tweed for town and country.

Hafner: yarn dyed jacquard of Bemberg rayon in Chinese motifs.





JULIUS N. WERK

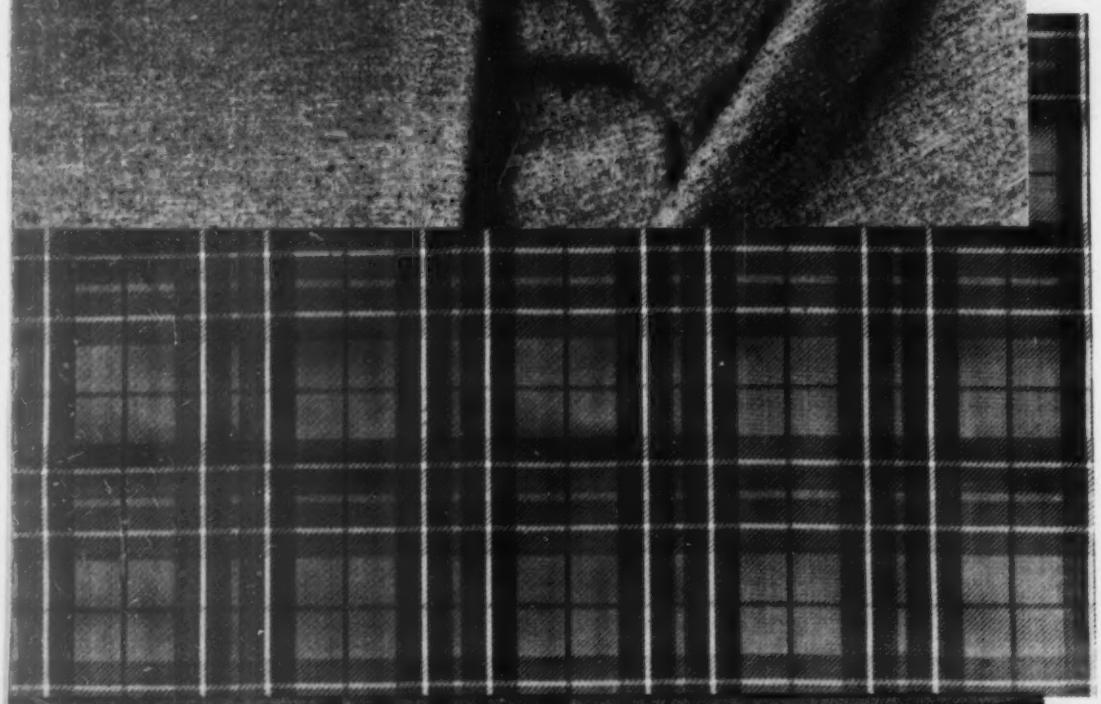
MILTON C. BLUM

HAFNER FABRICS F. SCHUMACHER

Hess Goldsmith, left: the fabric swatch is an iridescent taffeta-type twill by Hess Goldsmith . . . the striping by Blum is pure combed cotton (paper tip-on above) stripe featuring illuminated manuscript colorings. The rich raspberry reproduction by Werk is a Ming-inspired color in all silk shantung. Hafner jacquard, which is shown in actual size in the color reproduction, is described above. At right Schumacher's combination pre-woven yarn and Lurex jacquard weave — superb decorative fabric.

The printed worsted cloth, from the mills of Milliken, was designed by D. D. and Leslie Tillett.

Berkshire-Cerey's Fematone tweed an all wool tone on tone suiting.

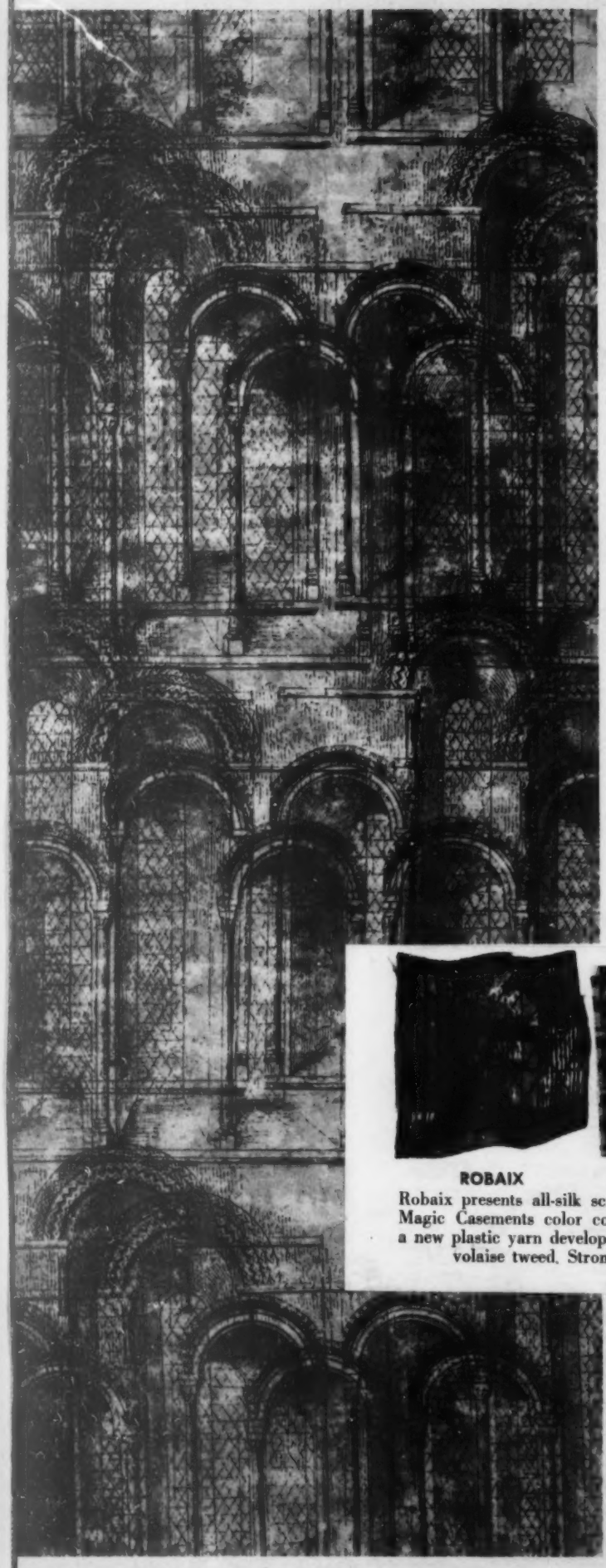


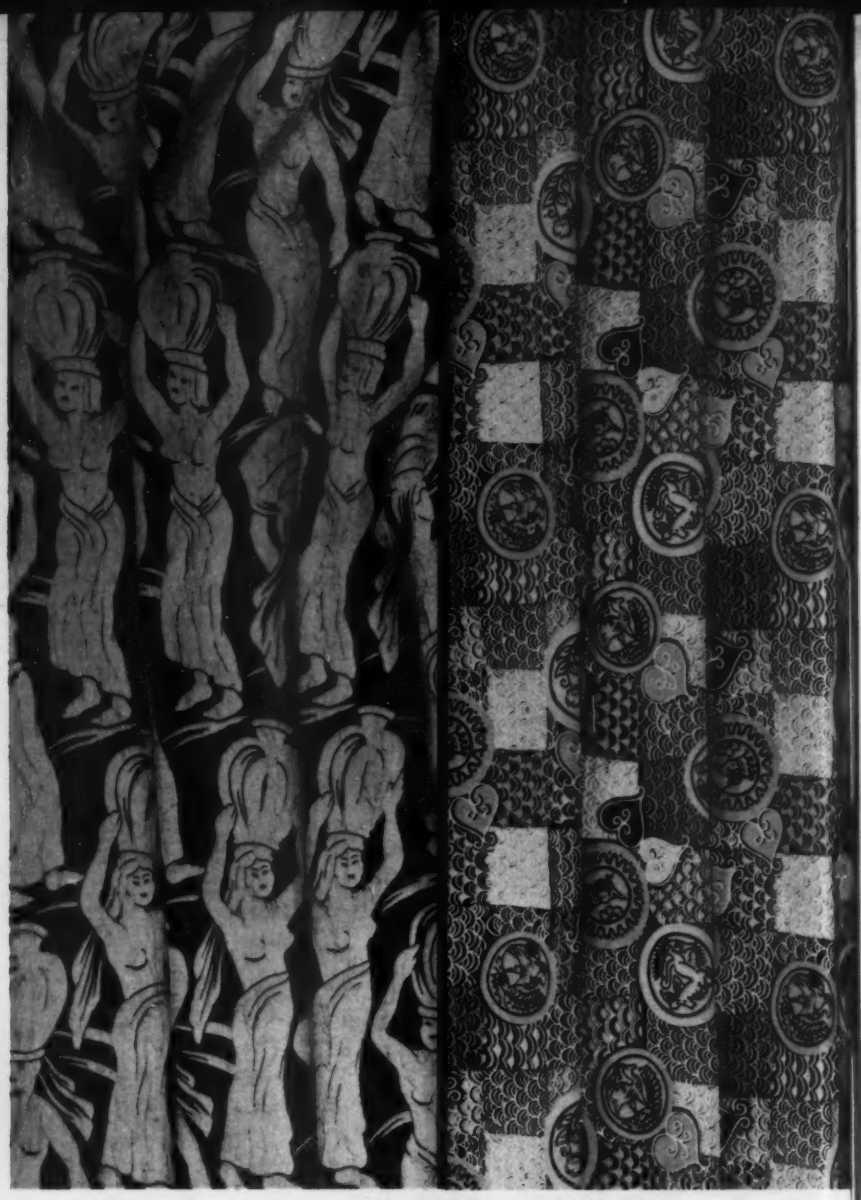
The Lumite Division of Chicopee Manufacturing Corp. of Georgia creates this double-end twill of Saran monofilament.

Pakables by American Silk Mills, a new travel type wrinkle resistant fabric of acetate and nylon.

The rayon plaid produced by Ameritex is shown in a series of classic plaid design and color combinations.

Coordinated dress and decorative fabrics . . . "Fun to Run," designed by Estelle and Erwine Laverne. Cotton, rayon and metal. The design of the drapery fabric shown in light photo at top is coordinated with a dress material of the same motif shown in darker photo directly below.



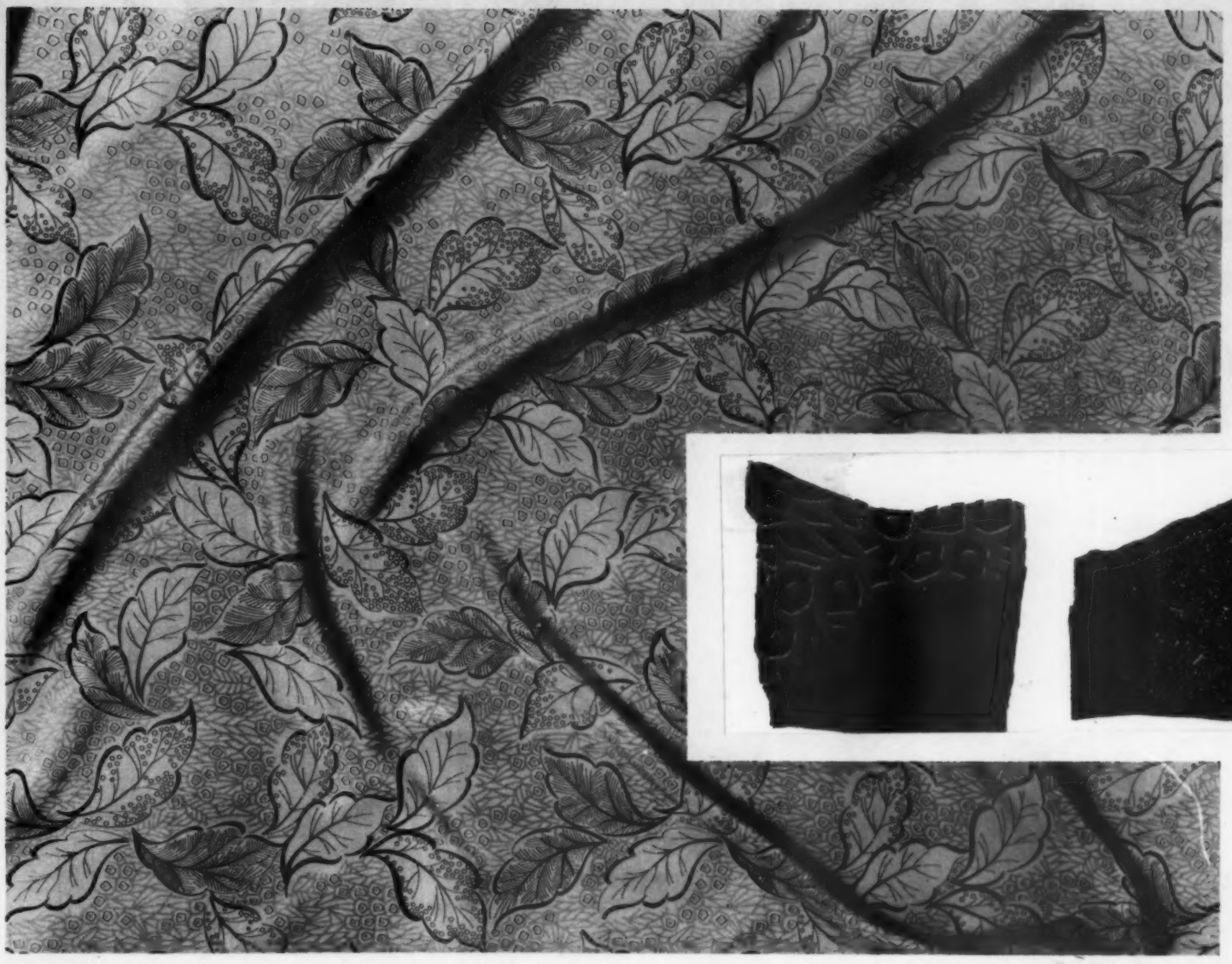


Left: "Mexican Water Carrier," after the original painting by Doris Rosenthal, is an acetate and rayon print by Onondaga.

Right: Regency's all viscose crepe with Grecian medallion design from the collections at the Metropolitan Museum.

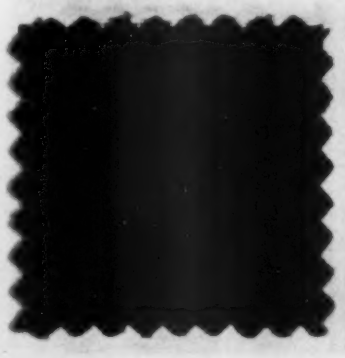
ROBAIX SUSKANA WORUMBO STRONG, HEWAT

Robaix presents all-silk screen-printed crepe, "Magic Casements," designed by Harvey Seltzer . . . typical Magic Casements color combination is shown above. Suskana's hound's tooth check woven of Dow Saran, a new plastic yarn development for automobile seat covers. Worumbo: all wool brown and black herringbone volaise tweed. Strong-Hewat: a men's wear donegal-type suiting in traditional homespun weave.

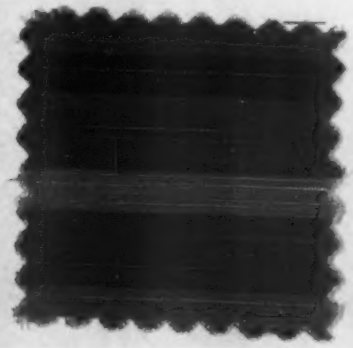


Cohama presents a pure silk crepe in a leaf design . . . typical color combination is reproduced in the inset. The inset at right is Forstmann's silk warp with pure cashmere filling, which combination affects the fluid drape of the finished fashion garment. One of the world's finest examples of textile weaving.

Galey & Lord: combed iridescent chambray with dobby figure . . . developed by Mimi Blaker.

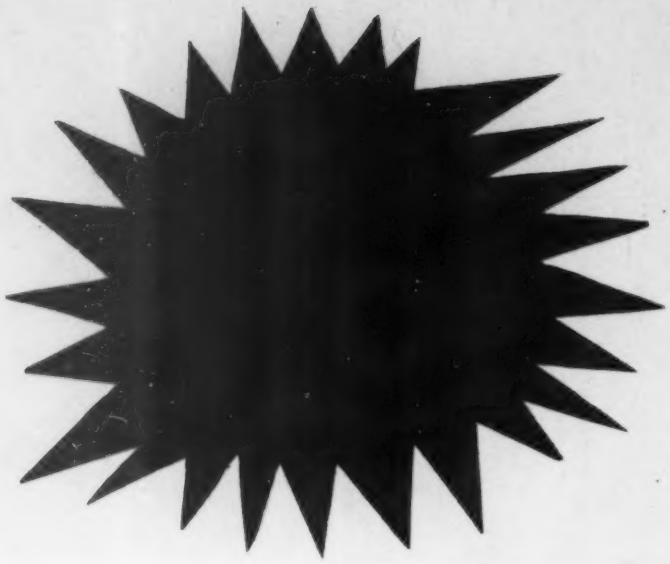


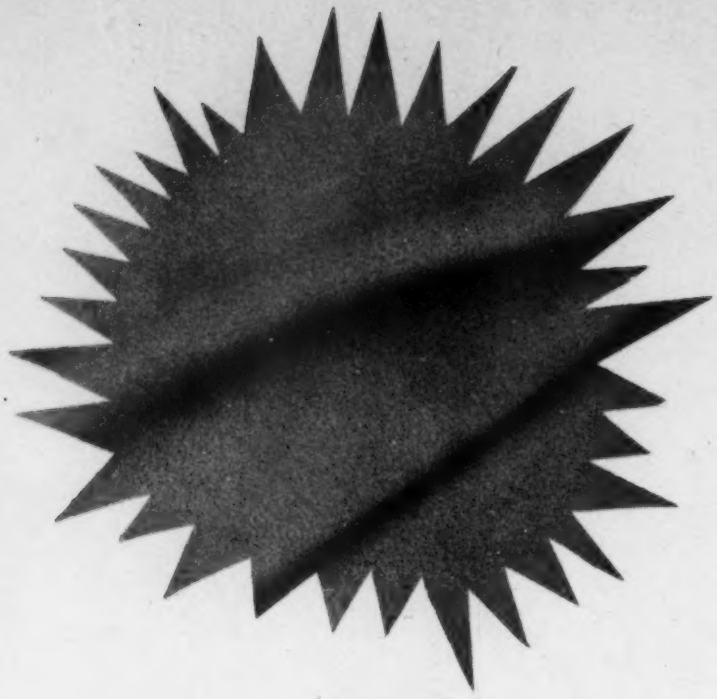
Remond - Holland Dupioni silk shantung with rich muted stripings contrasting with ground.

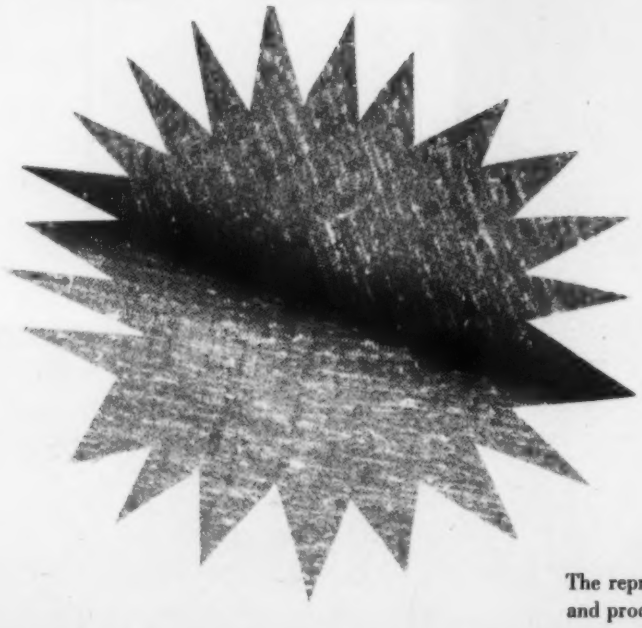


Stehli's all-Celanese bridal satin has won deserved nation-wide fashion recognition.

Wyner's worsted jersey woven with pin-check design. Exclusive Sag-No-Mor processed.





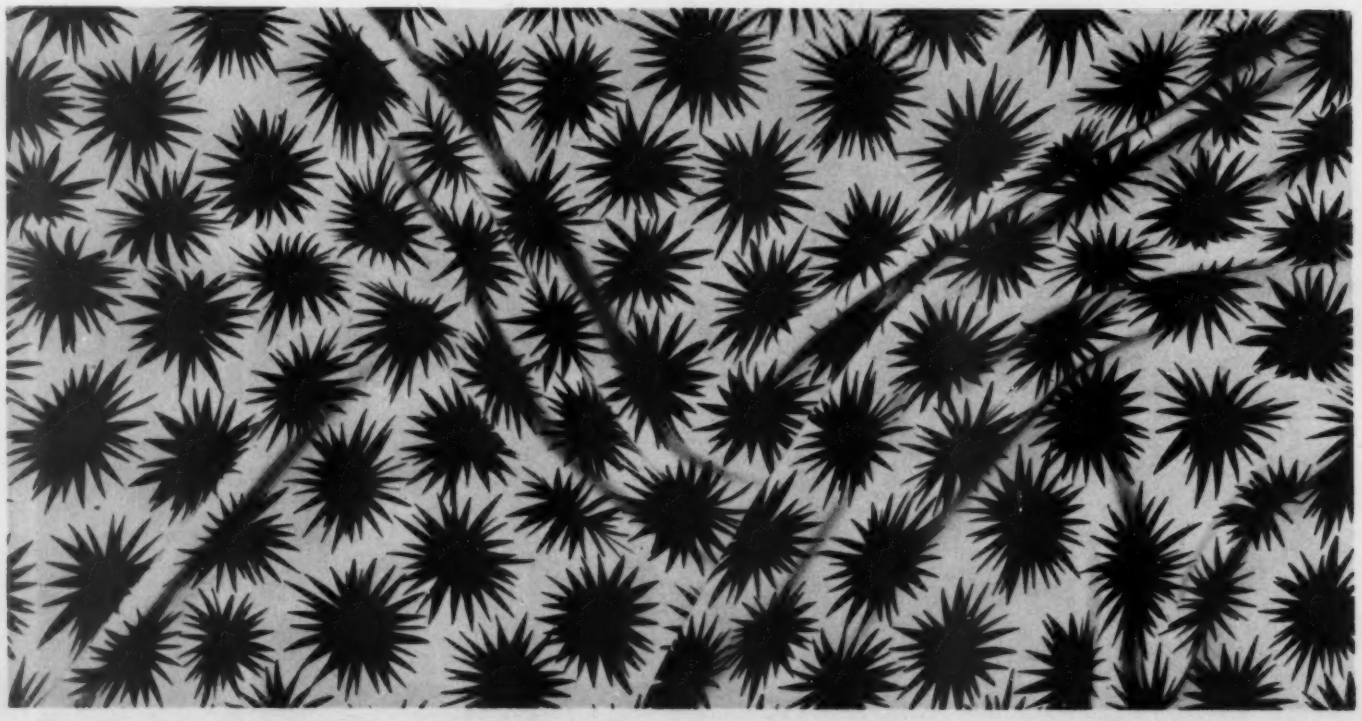


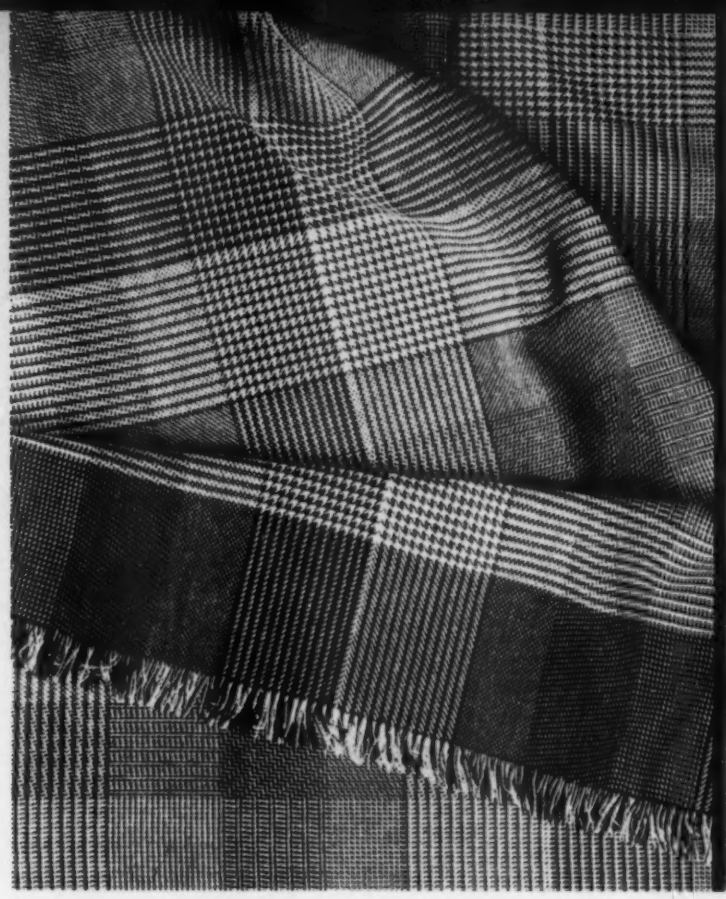
(*Upper left*) "Souffle" is the name which Tuller gives to this acetate and rayon satin shirred taffeta striped.

(*Upper right*) Draper Brother's "Barharbor" — seventeen ounce, one hundred per cent knitted wool doeskin in tone color.

Alongside at left is Wesley Simpson's iridescent tweedie linen type, specially adapted for drapability and ruggedness.

The reproduction below is a pure silk flat crepe, designed by José Martín and produced by Shelhar Fabrics Corporation.





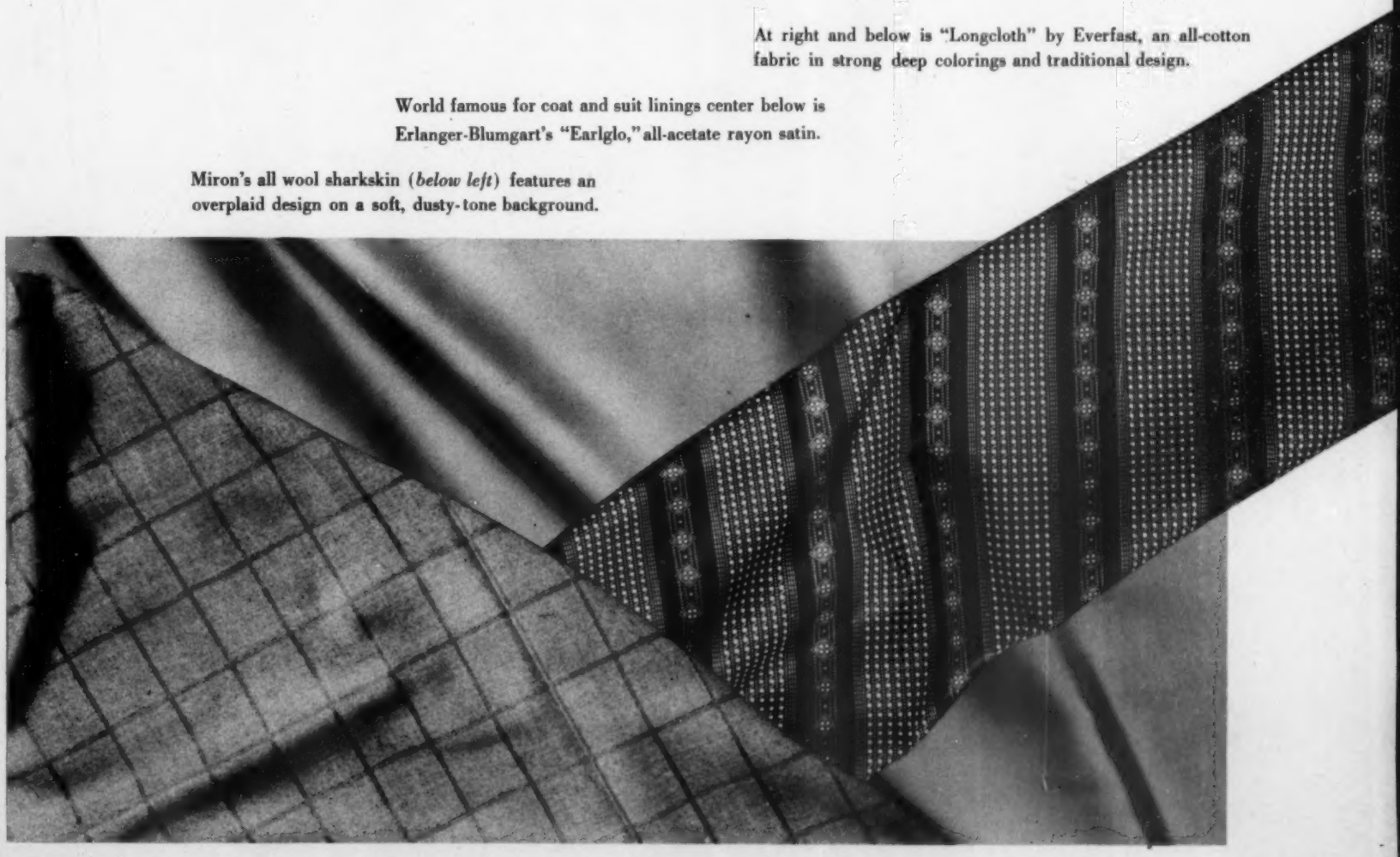
All-wool coating designed by Pola Stout for Philip Mangone.

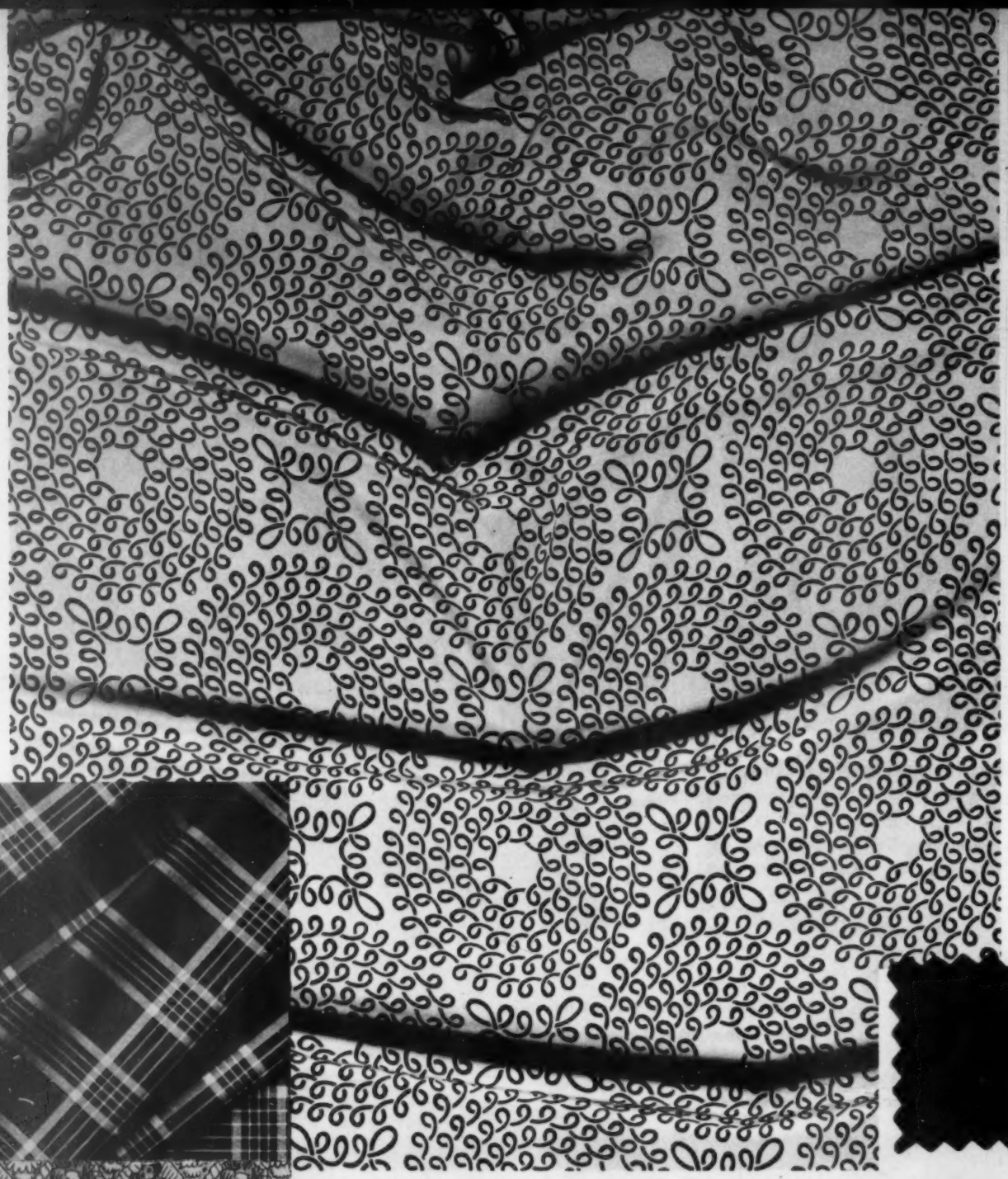
Stroock's luxurious fancy tweed wool coating.

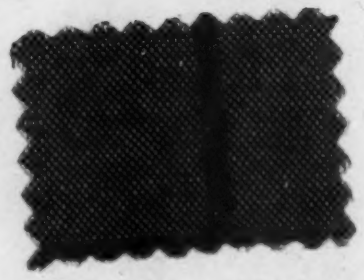
At right and below is "Longcloth" by Everfast, an all-cotton fabric in strong deep colorings and traditional design.

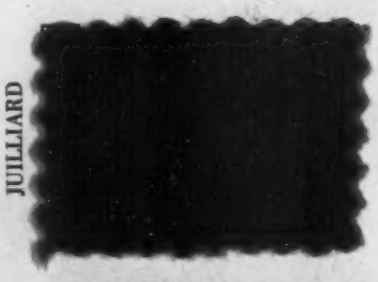
World famous for coat and suit linings center below is Erlanger-Blumgart's "Earlglo," all-acetate rayon satin.

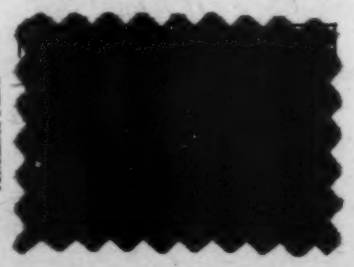
Miron's all wool sharkskin (*below left*) features an overplaid design on a soft, dusty-tone background.











Shelhar's all-silk flat crepe in bold scroll print, created by José Martín . . . swatch is shown at right.

The swatches at right: Miron . . . a virgin wool contrast basket-weave with an overplaid design.

Juilliard . . . a virgin wool texture-surfaced monotone tweed coating in luminous colors.

Ameritex: a rayon and acetate iridescent shantung which exemplifies the current Chinese influence.

The photos: top left: A pure combed cotton woven plaid of silken hand by Bates.

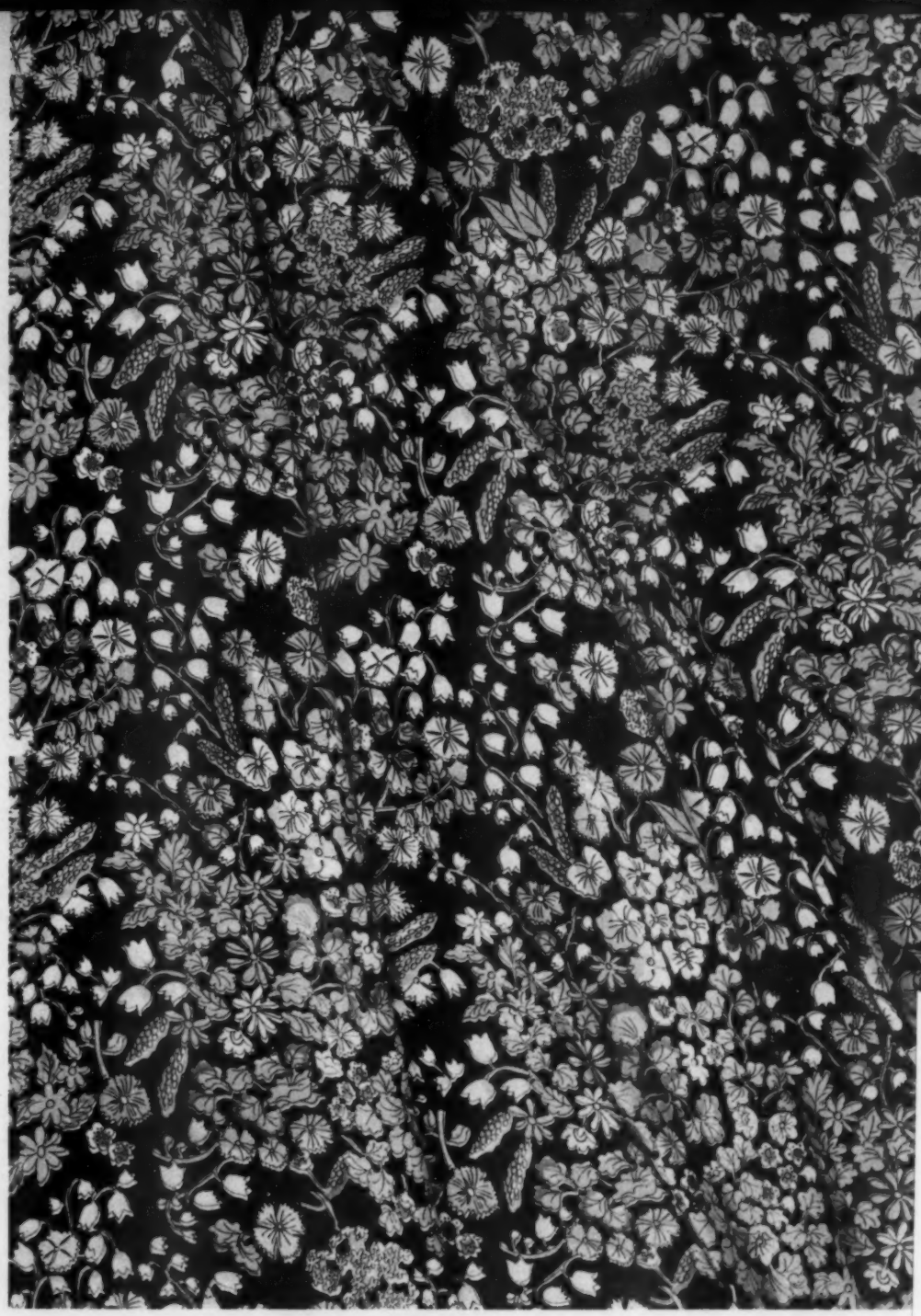
Center left: Belding Heminway's etched crepe print design of Far Eastern inspiration from Metropolitan Museum.

Bottom left: Bluebird's "Etoile" an all silk iridescent taffeta woven with Jacquard star-cluster design.

MIRON

JUILLIARD

AMERITEX



"Quelques Fleurs," after an original painting by Raoul Dufy, is a pure silk crepe by Onondaga. Color combination is also shown on top of the paper tip-on.

The full-color illustration: Martin Weiner (*second from top*) — woven as a solid fabric with flower pattern etched out in acetate rayon.

(*White print, third from top*) The delicately printed rosebud print design on a one hundred percent worsted challis is a Botany Mills fabric.

(*Second from bottom*) The float weave yarn-dyed worsted by John Walther Fabrics is reproduced in actual color combination.

(*At bottom*) American Woolen Company — a one hundred percent virgin wool worsted sharkskin with interesting overplaid treatment.

A

A. At left: Jofa's "Irish Landscape," designed by James Reynolds, cotton and spun rayon.

B. Bellman Brook Bleachery's "Imago" (Belmanized permanent starch finish).

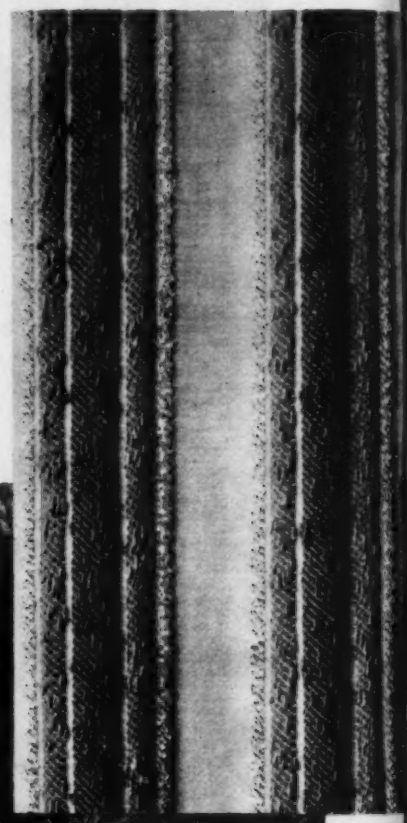
C. Schumacher's "Strip Fields," a printed linen designed by Naomi Raymond.

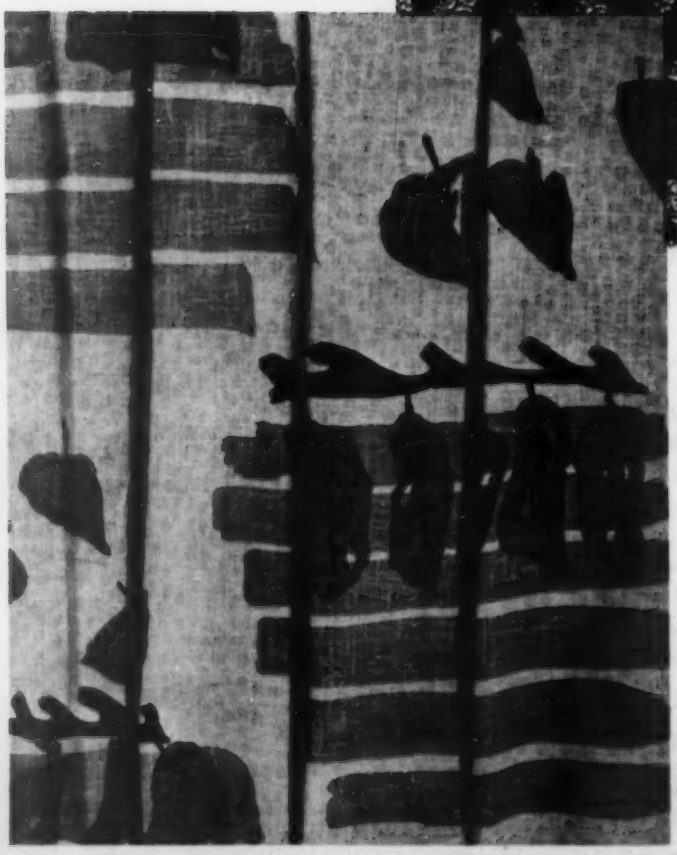
D. Verney's Frisette, a 5-ply jacquard ratiné for modern decor.

E. Dobeckmun, makers of Lurex, enters this cotton, rayon and Lurex metallic thread fabric by Schumacher.

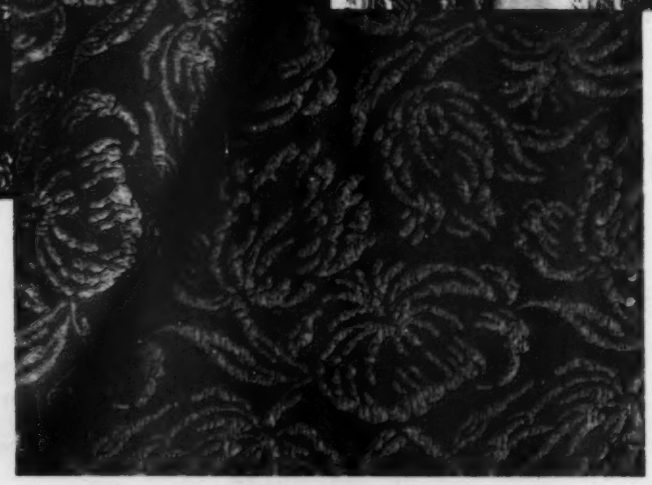
E

B





C



D

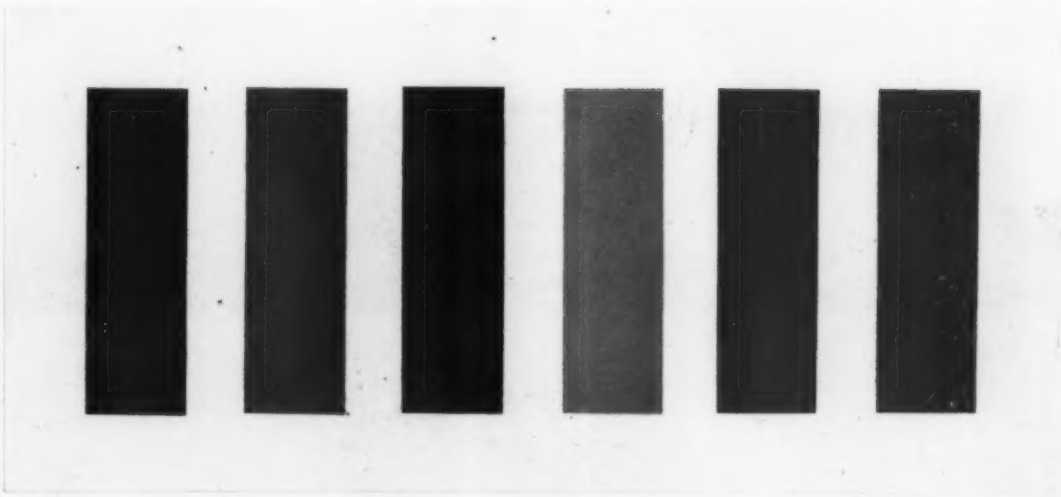
On opposite page: The smaller inset photo is Foreman's "Brocalure" (French inspired) acetate and rayon matelasse weave.

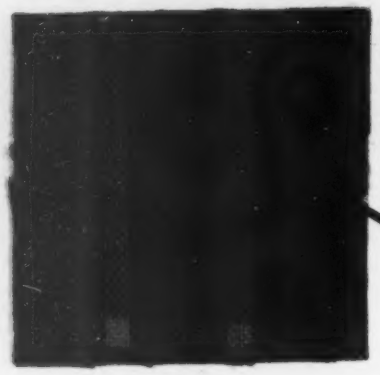
On opposite page: Brunschwig et Fils "Cris de Paris," silk-screened photographic cotton print decorative fabric styled by Zelina Brunschwig.

Sablon d'Etampes. Faut il du Sablon.
Achetez mes belles fabades
Achetez mon graisil. achettez mon pot de basilique achettez mon sel Loisel et mon Laurier

Paradise — by Giovanni Di Paolo, courtesy Metropolitan Museum of Art

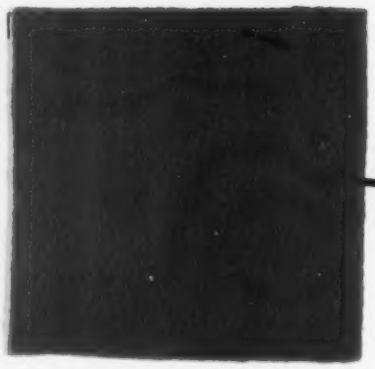
"THE CAPACITY *to create beautiful things is one of mankind's greatest gifts . . .*"





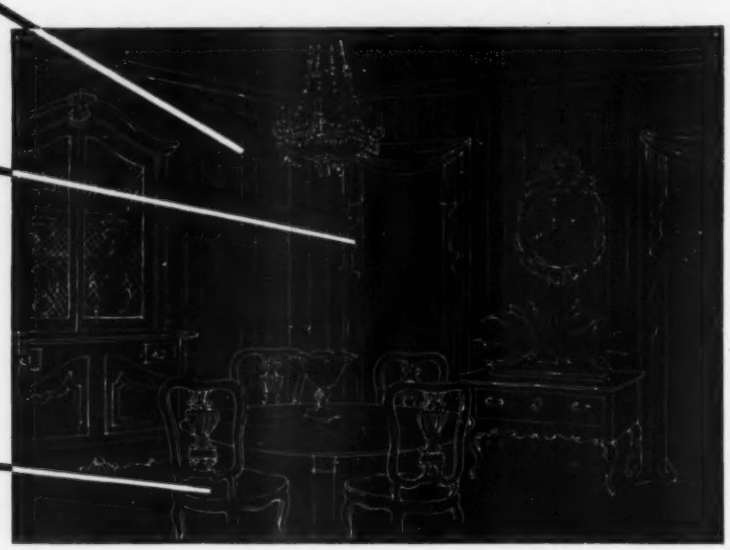
J. P. Stevens & Co., Inc.

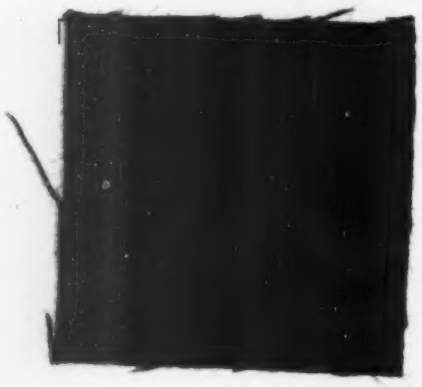
Miron Mills, Inc.



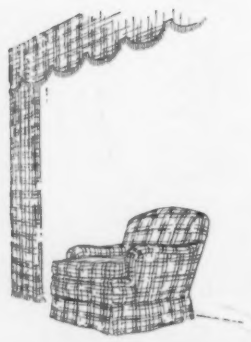
J. P. Stevens & Co., Inc.

JAMES AMSTER places antique French Provincial piece of natural fruitwood against a background of wool plaid walls in muted pastel colorings to achieve a dining room of rare distinction. For the formal window draperies with their swags and jabots he has chosen the background color of the plaid. Also from the plaid, he has taken the pink for the chair seats and translated it into wool fleece — an unusual and highly satisfactory upholstery fabric. In the china cabinet and on the round marquetry table Mr. Amster has placed collector's pieces of green Bristol glass, (still another color selected from the plaid palette). A darker green note is struck by the plants which grow in a refraichissoir beneath a gilt framed antique barometer. Iconoclastic but marvelously effective is the Eighteenth Century Russian chandelier of opaline glass highlighted with bronze festoons and crystal prisms. The floor is carpeted in deep taupe broadloom.





Shamokin Woolen Mills, Inc.



CHARLES BEISTEGUI has decorated a number of suites in New York's Hotel Plaza, all of which have authentic Scottish clan plaids as the pivot of their color schemes. In a large living room against a background of white walls and deep green carpeting, Mr. Beistegui uses an even deeper green wool felt to upholster a Lawson sofa and a Queen Anne wing chair. He chooses the Forbes Ancient clan plaid to cover a pair of lounge chairs flanking the fireplace and also to make the fringed valance over a large window and two occasional pillows on the sofa. Off-white antique satin is used to upholster a pair of French Provincial open arm chairs. Decorative accessories include an antique ormolu clock and pair of candlesticks on the baroque marble mantel. Illumination is given by three porcelain lamps in yellow to blend with the yellow of the plaid, shaded in white silk, and an Eighteenth Century crystal chandelier.

American Felt Co.

APPAREL WOOLS FOR INTERIOR DECORATION

Wool apparel fabrics have been recently discovered by leading American decorators as having practically limitless possibilities for use in the home furnishings field. Versatile to a marked degree, these beautiful woolens and worsteds in their great variety of coordinated colors, patterns, weights and textures, lend themselves to both the modern and traditional styles of decoration. Wool plaids, especially, are important as they form the basis for color schemes and run the gamut from authentic Scottish tartans to muted pastel harmonies and monotones. When these plaids are used in combination with solid colored or mixed color woolens, a wide range of effects may be achieved.

Apparel wool as used in home decoration has certain exclusive features which recommend it from the standpoints of economy, beauty and safety. First, it wears well. That's been proved beyond the shadow of a doubt through long experience in wool clothing. Qualities such as crush-resistance, elasticity, resilience and strength give wool a high priority among upholstery fabrics. Add to that impressive list its unique insulating property; wool hung at windows insulates rooms against excessive cold in winter and heat in summer. Wool fabrics are very wide, ranging from fifty-four to fifty-eight inches which makes them economical.

The predominance of wool in an interior has a softening effect. Because of its rich affinity for color even when dyed the most brilliant hues it never appears harsh to the eye. This softness also carries over to its actual "hand" or "feel"; it's pleasant to touch, soft and comfortable to sit on — a highly important consideration when choosing fabrics for decoration. In addition, wool drapes beautifully. It hangs in sculptured folds and lends itself especially well to such decorative treatments as pleats, swags and jabots.

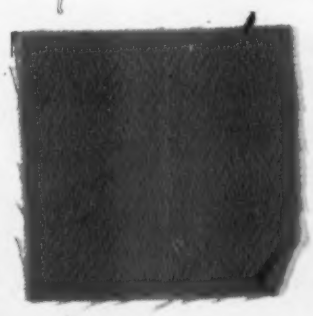
During recent years processes have been developed which successfully combat moth damage, stains and shrinkage in wool fabrics. Modern moth-proofing in the form of a chemical bath in which the finished fabric is rinsed has a long-term effect.

Three outstanding New York decorators, James Amster, William Pahlmann and Chas. Beistegui, all believing in apparel wool as a desirable medium in which to express their ideas, have each designed for AMERICAN FABRICS a room. These rooms, as highly different as the points of view of the decorators who created them, clearly illustrate that wool happily adapts itself to any period. It seems, in fact, to become clay in the hands of the master.

WILLIAM PAHLMANN designs a library essentially modern in feeling but with overtones of Regency and French Provincial styles. Using a monotone wool plaid in beige and brown tones as the keynote of his color scheme, he chooses a pale beige for the walls and a darker tone of the same color for the tailored, straight-hanging draperies. The sepia tones of the mural on the window wall repeat the monochromatic effect of the background. Ascending the color scale to a high note, an ice blue ceiling is reflected in the polished surface of the linoleum-tiled floor of the same color. Mr. Pahlmann covers a Provincial bench and a modern love seat in the beige and brown plaid, and a blond wood chair and ottoman in a tweed of brown and terracotta. A rich Empire green wool covers a modern armchair, and is repeated in an enamel table top as well as in two potted plants — a tall one which stands beside the fireplace and a smaller one posed atop a Regency pedestal. Terra cotta is found again in the tones of the marble fireplace and gold highlights in the ormolu mounts on the Regency pieces, lamps and wall sconces which flank the fireplace.

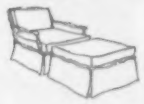
J. P. Stevens & Co., Inc.

Anglo Fabrics Co., Inc.

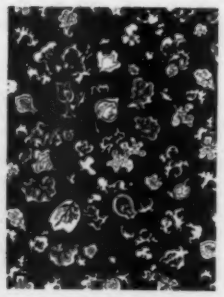


A. D. Juilliard & Co.

Milridge Woolen Co.



BLOCK PRINTING DESIGNS FROM ANCIENT INDIA



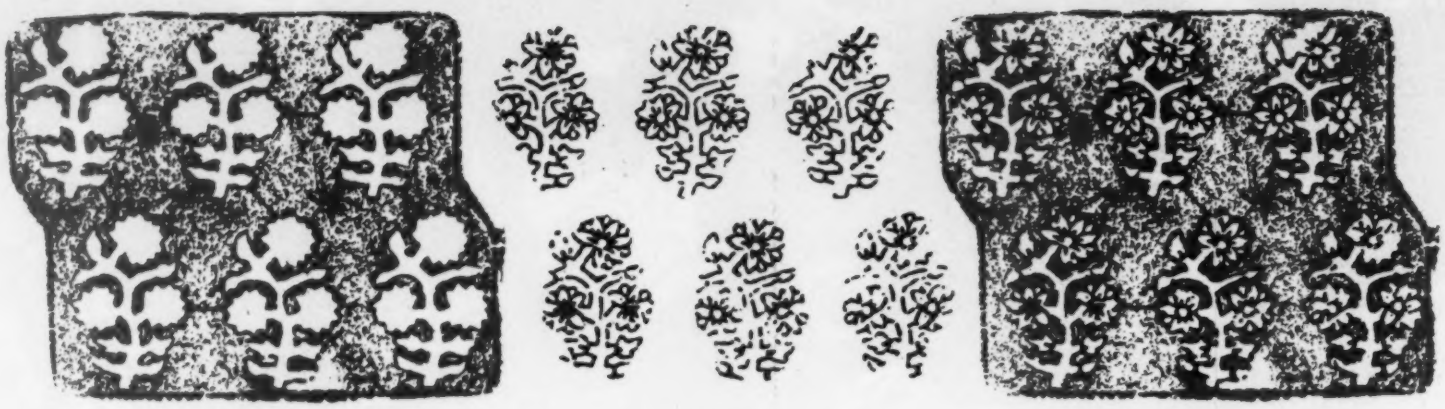
Color
Number One

Color
Number Two

Color
Number Three

Color
Number Four

U.S.A. via India and France . . . The print design on the page opposite is part of a Paris-inspired collection of prints created early this year by Cohama designers. Note that several of the basic pattern motifs stem directly from designs used centuries ago in India. ⟶



The Red

The Black

The Red and Black

Some typical examples are shown on these two pages. — Text and illustrative material from a booklet published by the Field Museum of Natural History of Chicago.

Block Prints From India for Textiles . . . The use of wooden blocks to print or stamp designs on cloth, especially cotton, is still quite common in India, though by no means so general as in former years. The designs used vary considerably from place to place, but the method is much the same everywhere. The designs are first drawn on paper, which is pasted on blocks of wood. The wood is then cut with a crude engraving tool to the depth of about one-third of an inch. Holes are often cut through the block to allow the air to escape from the cavities formed by cutting out the design. This allows the dye to penetrate all the parts without danger of air bubbles. The wood used must be firm and fine grained. Different woods are used in different parts of India.

The Red

The Black

The Red and Black

The Red

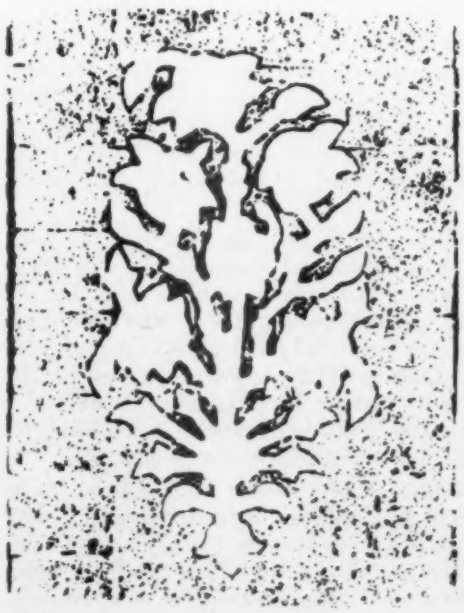
The Black

The Red and Black

Teak and ebony, though not the ones most commonly used, are said to be preferred in certain regions. The making of these blocks is a special industry. Occasionally iron wire or iron strips may be set in the block to give the pattern.

The old native dyes have been largely displaced by the aniline colors, but are still used in many places. Black, reds, and blues are the most common and permanent of the colors used. The fabric, which must first undergo special preparation, is laid on a low bench on a pad formed of several thicknesses of cloth. The printer squats in front of this, with the dye in a pan or earthen vessel at his side. In this vessel is a frame which is covered with one or more thicknesses of heavy cloth or blanket forming a pad which becomes saturated with the color, and on which the blocks are pressed before stamping. Besides being used for applying the dye, blocks may be used for the mordant, and, in some places, especially southern India, wax or some resist is often stamped on the cloth. As a rule, not more than two colors are used, black and some shade of red being the most common.

The designs herein illustrated are all full-sized impressions of blocks, many of which are old and somewhat imperfect, but the impressions have not been retouched. As they were made with ink instead of the fluid dye, the effect is not quite the same as it would be on cloth. Where it was intended to print a solid color, the blocks are cut out and filled with a fibrous mass which takes up the fluid dye better than the smooth wood, but gives only a stippled effect with ink. END.



The Red

The Black

The Red and Black

Interior view of Cluett-Peabody's new million-dollar research and science building.

LET THE WORLD PEEK UNDER THE BUSHEL

Technological contributions of American Textile Industry stand in forefront of world research.

THE textile industry takes its new developments so in stride that it is small wonder when even so probing a magazine as *Fortune* has in recent months accused us of doing no really serious technological research. We compliment *American Wool and Cotton Reporter* on its prompt and potent reply in defense of the textile industry; but perhaps it is understandable that people outside the industry should be so in the dark when we ourselves hide our light under a bushel.

The world full knows of the ingenuity displayed by the metal industries in forging better weapons for war . . . but knows little of textiledom's technological contribution in the form of fabrics which enabled men to fight better. News headlines blazon the story of the newest jet plane . . . but the development of a flameproof finish for tots' dresses is known only to those who read the manufacturer's tag. The automotive industry receives wide acclaim for the development of a new luxury gadget . . . but the textile chemist who perfected colors fast against bleaching immediately hastened on to another problem and is unknown to the consuming world.

To those who hold up the immense sums spent by other industries in research and technology we say, "Fine!" But we also say, "Have you any idea of the number of people and the number of dollars spent in textile research and technology?" It is simple arithmetic to compare not only the dollar volume of the textile industry with that of any other, but the number of individual contributing plants which make up the whole; to calculate that even if each dyeing or spinning or weaving or bleaching plant had but a single technician on its staff, the textile industry overwhelmingly surpasses in the investment in research and technology.

But the truth is, even this is no true gauge of comparison. For by the very nature of the industry, each employee above the level of apprentice is a full-fledged technician. This is no work in which a man can earn a day's pay for tightening bolts on an undercarriage all day long. The man who tends a loom or a vat is a practical technician, though he may wear coveralls at his work instead of a white jacket.

To say naught of those who sit in higher echelon and keep steady finger on the pulse of fashion and economics to devise newer and better fibers and fabrics and finishes to fill a need. Let the aircraft industry praise its development of the retractable landing gear . . . but let it also tackle the problem of changing from soft to crisp fabrics overnight to satisfy America's women. Let the appliance industry proudly hail the home laundry machine . . . but how fast could it lick the problem of making a new synthetic fiber take to the vibrant new colors kindly and permanently.

More people are employed and derive their income from America's textile industry than any other in the entire world (with the exception of food). It is not Big Business but, aside from food, the Biggest Business. And as such it needs only a careful scrutiny to reveal that it achieved that status because the men within it respect and use and encourage the spirit of research and technology.

Photo courtesy Coston C. Crouse,
West Stafford, Conn.

CHINCHILLA

THE FUR AND THE FABRIC

The Chinchilla, Prince of the Rodent family, is just large enough to be a delightful little handful; it possesses one of the world's most beautiful, luxurious and unique coats of fur. This precious coat, the lure of hunters since times prehistoric, has ever been his downfall until, finally, it became his salvation.

In the waning years of the 19th Century and in the early years of the 20th Century this soft, blue-gray fur was so coveted that the wild herds in the mountainous regions of Bolivia, Chile and Peru were being decimated at the rate of half a million or more each year. A few years of slaughter at this rate caused the disappearance of the skins in world markets, and, too late, the South American governments banned further destruction of the animals and traffic in their skins.

* * *

Following World War I came the crisis to the Chinchilla world. Despite the fact that trapping was forbidden, the number of animals had been reduced to the point where they could no longer hold their own against their natural enemies — foxes and birds of prey. The Chinchilla had a rendezvous with oblivion where, in memory, he seemed destined to join that long list of dumb animal martyrs who have succumbed to civilization.

In 1920, in the excitement over the passing of the Chinchilla, prices for remaining pelts were bid in public auctions for as much as $185. Stories of private sales gave a figure beyond this, and chances are a pelt brought as much as $200. Chinchilla garments containing 100 to 140 pelts brought prices that stunned the imagination; $30,000 was the price that some of the coats sold for.

In this same year, the lure of the Chinchilla was felt by a man in whom it had aroused a passion for its possession — but for a brand new purpose. Mathias F. Chapman, an American engineer engaged in mining operations in Chile, was this man. Noting the plight of the Chinchilla, he resolved that the animal must be saved from extinction, that its beauty must be preserved for future generations, and that he was the man who could do these things and at the same time be rewarded for his efforts. A hobby became an obsession and then an actuality as Chapman set up his plans to do the task at hand. He received permission from the Chilean Government to acquire eleven live animals — the number that his Indian hunters were able to corral in a three-year search in the mountain recesses of this country — a country where Chinchillas were formerly counted in thousands.

Chapman realized that he would face many barriers. Just as a tool is the greatest thing in the hand of man, an idea is the greatest force in the mind of man. Chapman had the idea and he also had dogged determination and will power. He had to have these qualities since five of his herd were stolen shortly after he began his project. This happening made him more determined than ever to succeed. In due course of time, Chapman was rebuilding his flock from the best of the remaining stock. And today those who carry on in the industry are reaping the fruits of his efforts. Chinchillas are well on their way to complete domestication and the care of these cherished nuggets of fur is a going industry.

The original animals captured for Chapman lived long and well-cared for lives. Their descendants have preserved that fabulous beauty which otherwise would now be a legend while their wild cousins have traveled the road to animal Valhalla.

Facts About Chinchilla Fur

In its uniqueness it is different from all other furs. In structure it is as fine as spider web and as many as eighty or ninety fur fibers emanate from a single root; this creates a softness not to be found in any other fur.

Each fiber has a triple color tone. Next to the skin there is a broad band of deep slate blue followed with a white band averaging one-quarter inch in width and this tipped with a dark veiling. This combination, along with the artistry of the furrier, creates the lovely, lustrous blue-gray effect that makes Chinchilla the fur of milady. Chinchilla, unlike many other furs, cannot be success-

(Please turn page)

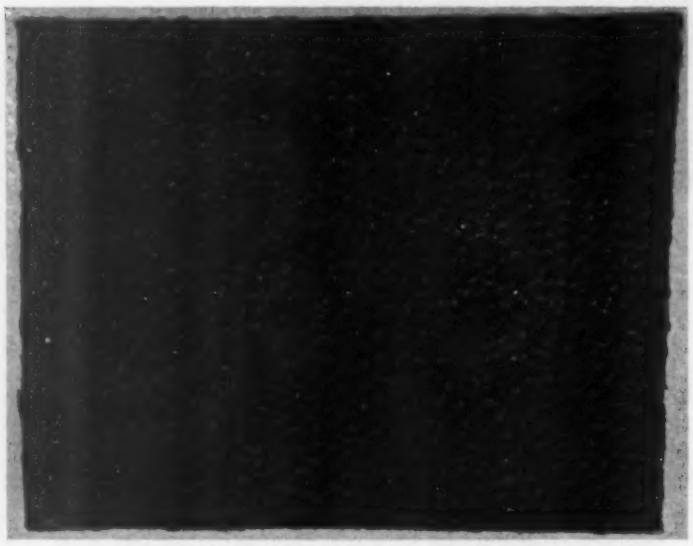
fully imitated because its texture and color motif defy the cleverest of imitators. Real Chinchilla stands alone; its extreme light weight makes it ideal in trimming — a large skin may weigh only a single ounce.

At one time the world consumption of the skins exceeded a half-million, and the future markets, thanks to Mathias Chapman and his foresight, will in time exceed this number. In 1945 there were less than 25,000 animals in existence, thereby demonstrating that a long period of development and growth must be undertaken by the growers. Unlimited possibilities for the sale of good breeding stock awaits these owners. Fortunate is the man or woman who owns a herd of these animals, for all the world wants Chinchilla and only America produces it at present.

Chinchilla Care

This amazing animal, in spite of its fabulous value, does not need highly skilled and scientific care as one would surmise. Genuine interest and a true understanding of the habits of the animals are prime requisites. They respond beautifully when given individual attention but resist mass production techniques. This is just as it should be, for is not the Chinchilla the gem of the fur world? And, true gems are not produced en masse. Choice Chinchilla of the future may well come from thousands of small growers rather than from mass breeding farms where individual attention is not possible.

Common sense and animal understanding are two potent factors in raising Chinchillas. They are as easily cared for as any other valuable livestock and less troublesome than most. The Chinchilla, it is claimed, is probably the cleanest animal in the world; it has



CHINCHILLA — THE FABRIC

In woolen manufacture the term "Chinchilla" refers to a type of finish which is superimposed on a napped woolen fabric and which takes the form of:

A. A wave effect which runs parallel with the warp.
B. A wave effect which runs parallel with the filling.
C. A diagonal wave which runs from left to right.
D. A diagonal wave which runs from right to left.
E. An all-over pin-head effect devoid of any direction.

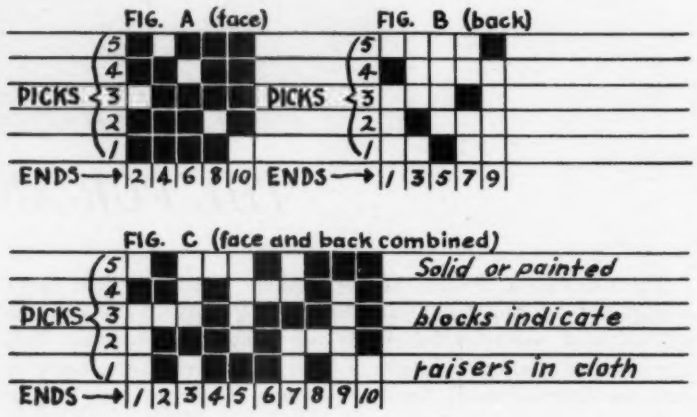
The finish is produced on a Chinchilla or Witney machine, through which the cloth is drawn at a very slow rate of speed — usually under five yards a minute.

This machine has two plates set one on top of the other and between which the cloth passes during the process. The lower plate is covered with velvet plush on its upper surface. The upper plate is covered with rubber on which has been embossed the pattern of the desired finish on its under surface. The upper plate is given a reciprocating motion by means of a bevelled gear which, in turn, is controlled by eccentric cams on both sides of the machine.

To produce the pinhead effect, the upper plate is caused to rotate in a short circular motion; for Witney chinchillas the plate moves in the opposite direction to the wave.

In order to obtain the best results the fabric should be pliable in handle with good draping qualities and a dense nap on the face of the goods which should be devoid of any pattern such as a twill or a diagonal.

The manufacturer with the necessary equipment for this type of finish welcomes a good run on chinchilla because he can usually make stock goods in quantity to await final finishing instructions from the selling agent, since all finishes can be made on the same ground weave, an asset of the material.



A typical construction for the best grade of Chinchilla men's overcoating follows:

WARP: 3¼ run wool of 100% New Zealand merino — yarn to have 10 turns to the inch.

FILLING: 3¼ run wool of 100% ten-to-twelve month's Cape wool — yarn to have 7 turns per inch.

TYPICAL WEAVE CONSTRUCTION FOR CHINCHILLA FABRIC:

There are two weaves used to make Chinchilla fabric. The five-end Irregular Satin weave is used in both weaves — the one construction is a five-shaft, warp-flush effect while the other is a five-harness, filling-flush or warp-back effect.

The warp arrangement is one face and then one back throughout the formation. The face weaves on the even ends and is shown in Figure A. The back weaves on odd or alternate ends and is shown in Figure B. Figure C. shows the combination of the two constructions in the five-end Irregular Satin weave. (*See charts above.*)

The broken nature of this five-end satin weave on the face and on the back is resorted to in order to avoid any possible semblance of the direction or twill line on the face of the goods. This weave and construction is basic in the Scotch fine overcoating trade.

FABRIC DATA:

There are 3040 Ends in the Warp.

An 8½ reed is used with 4 ends per reed split to obtain an 89.4-inch width in the loom.

WEIGHT OF THE WARP YARN:

A. There are 3,040 ends in the warp
304 extra when a 10% takeup in weaving is considered.
3,344 total number of yards of 3¼ run wool yarn for 10.3 ounces per yard.

no discernible odor and makes very little noise. These qualities make it possible to raise them in city or country, wherever pets or livestock of any kind are permitted. Of all fine fur bearers this is only true of Chinchilla, and, being vegetarian, thrive on a diet of cheap and plentiful products.

Chinchilla Housing

While it is true that the animals are native to the high, desert-like plateaus of the Andes Mountain chain, it is not necessary to duplicate the conditions for domestic raising. These hardy little creatures have easily become acclimatized to their surroundings and lean on man for affection, care and attention. Few precautions have to be followed but these should be followed to the letter — no extreme temperatures or excessive dampness; a dry home must be provided and proper conditions must prevail for good results.

Housing, of course, will vary with the prevailing climatic conditions under which the animals are raised. Proper ventilation, cleanliness and light should be given attention for the comfort of the animals. The latter, however, does not affect them since they can do well without direct sunlight.

Pens and Cages

The animals seem to thrive very well in a pen of 2 feet x 4 feet x 18 feet in height. Shelves or perches around the pen will enable the animals to exercise. Half-inch wire mesh hardware cloth, including the floors of three-eighths inch mesh to permit droppings to fall through, seems to be ideal for the enclosure.

The nest-box is the most important item of equipment for these nocturnal animals who will sleep all day. A nest-box provides freedom from disturbance, noise and bright light. A box ten inches wide and high and about twenty inches long will provide accommodations for any family of Chinchillas. In cold weather the nest-box can be heated with a small heating element.

The Chinchilla is a very clean animal in its daily routine. Each

(*Continued on next page*)

FURTHER DATA:

A. Dressed yards: 60
B. Woven yards: 57
C. Finished yards: 49.5
D. Width to the Dryer: 61 inches.

Both the warp and the filling yarns are relatively soft spun, the filling

WEIGHT OF THE FILLING YARN:

A. 91.4 (2-inches added to the loom width)
x 72, picks per inch
6581, the number of yards of 3¼ run wool necessary.

METHOD OF FIGURING WEIGHT OF THE WARP YARN:

A. One pound of 3¼ run wool, 1600 yards to the standard will give 5,200 yards per pound (1,600 x 3.25 equals 5,200 yards per pound).
B. One ounce of 3¼ run wool, 100 yards of yarn in 1 ounce will give 325 yards per ounce (100 x 3.25 equals 325 yards per ounce).
C. Therefore, 3344 yards of 3¼ run wool equals $\frac{3344}{325}$ ounces equals 10.3 ounces, the weight of the warp yarn in the goods.

METHOD OF FIGURING WEIGHT OF THE FILLING YARN:

A. One pound of 3¼ run wool, 1600 yards to the standard will give 5,200 yards per pound (1,600 x 3.25 equals 5,200 yards per pound).
B. One ounce of 3¼ run wool, 100 yards of yarn in 1 ounce will give 325 yards per ounce (100 x 3.25 equals 325 yards per ounce).
C. Therefore, $\frac{\text{6581, total yards necessary}}{\text{325, yards in one ounce}}$ equals 20.2 ounces, the weight of the filling yarn in the goods.

TOTAL WEIGHTS:

A. 10.3, weight of the warp.
B. 20.2, weight of the filling.
C. 30.5, ounce weight of warp and filling, combined.

particularly so, and the stock and the twist in the warp is used to insure greater strength on such an open-sett warp. The great width in the fabric is used to insure plenty of "cushion" in the finished goods.

When the piece leaves the loom it is inspected for weaving defects, which must be carefully repaired in the sewing room. In a construction of this nature "ends-out" may be allowed to go but the broken picks and the mis-picks should be properly repaired.

In the wet finishing department, the piece is dipped in alkali, put through the squeezer and fulled. The fulled length of the piece is based on a 21-percent loss in finishing and a finished weight of 30 ounces per yard is sought (58-inches wide x 36-inches wide). In figuring the required length of the piece from the fulling mills:

A. Grease Weight: The greasy weight of the piece minus the percent of loss equals the clean weight. Thus a grease weight of 114 pounds minus the 21-percent loss gives 90 pounds, the clean weight.
B. Clean Weight: $\frac{\text{The clean weight x 16}}{\text{Calculated weight per yard}}$ gives the fulled length.
Thus $\frac{\text{90 x 16, ounces in one pound}}{\text{30}}$ gives 48 yards, the fulled length.

After the piece is fulled to the required length and width, it is washed and then whizzed or extracted.

Leaving the extractor, the fabric is taken to the raising gigs and raised alternately from the fore and letter-ends, being changed in position every half-hour. The gigs should be of sufficient width to enable the operator to shift the piece in its relation to the gig so that any strong teasels would not be apt to cause streaks in the material. This process takes about four hours.

The goods are then placed on the wet roller and steam-blown to smooth down the pile. In this process the piece is wrapped around a hollow, perforated roller and the steam is allowed to pass in at one end. As the roller is closed at the other end, the steam is kept within the piece and thoroughly saturates the material. The process gives the piece "skin and luster" and takes about fifteen minutes.

The fabric remains on the roller for about four days and is turned upside down at the end of the second day. This is done to prevent the moisture from accumulating at one end only. This further assures the "skin and luster" effect in the piece.

The cloth is then returned to the wet-finishing to be washed and then extracted.

Following extracting the goods are straightened on the wet-teasel gig from both ends, each for about fifteen minutes. Next, the cloth is brushed wet for fifteen minutes before it passes on to the drying machine to be dried-off and tentered.

The material is now straightened on the dry gig for 4 or 5 rounds and is then put into the cold press, at full width, for overnight. From the press it passes to the dry-gig where it is steamed face and back for about twenty minutes.

Following this the material is sent to the lifter and shearing treatments where the pile is lifted and sheared seven times. After it has been dry-raised on the back and brushed on the face, the fabric is now ready for the Chinchilla Machine.

Witney finishes are divided as follows: (a) Upright — large or small. (b) Diagonal to the right — large or small. (c) Diagonal to the left — large or small. (d) Horizontal — large or small.

These finishes may all be inserted with one machine, the angle of the swing controlling the angle of the finish. The size of the Witney is controlled by the size of the traverse.

The Chinchilla Finish is inserted with a circular movement given to the velvet ground, but it is usually finished off with a circular motion on the rubber to make the finish more permanent in nature.

After a final dry-raising on the back, one way only, the piece is finished and should run to about 30-ounces in weight per yard of goods.

In the warehouse, the navy blues are whisked carefully with a hand-broom to remove any traces of white which the piece may have picked up in its journey through the plant.

Navy blue, black, Oxford gray, blue-Oxford and brown are the best sellers in that order. There is also some call for brown-Oxford. For the additional handling that is necessary, blacks and blues usually carry a premium over the other colors.

pen should have a deep box or pan in which should be placed a quantity of dry, dusty sand in which the animals will dig and roll and dust themselves. This is how the animals keep themselves clean and it should be noted that in this manner they remove all moisture or soil from their fur and keep it clean and fluffy.

Diet

This is one of the most interesting phases in the life of Mr. and Mrs. Chinchilla. They are herbiverous and will eat practically anything of vegetable origin. Their diet may range from broom-straw to charcoal, from strawberries to tobacco — all a source of wonderment to the breeder. The wide divergence of food that gives satisfaction to the Chinchilla clearly reflects the conditions under which the animals lived in the wild state; in order to survive they apparently had to eat "anything." Leaves, shrubs, berries, seeds, grass and tough desert plants were consumed in giving sustenance to their bodies. It has been learned from research and study that the animals were compelled to keep the digestive tract filled whenever possible and developed a very long and efficient digestive system for extracting every bit of nutriment from their food.

The animal eats only one and one-half ounces daily, and it prefers to eat it in the form that nature provides.

Breeding

Mating occurs when the animals are six to eight months old and they are generally bred on a semi-monogamous plan with male and female being kept together continuously in the same pen unless polygamous matings are resorted to in order to instill and emphasize the characteristics of some stalwart male. First litters are produced usually before the animals are a year old. Gestation is 111 days and babies in litters of one to five are born fully furred, eyes open, and able to scamper around in a few hours. They are weaned when about 60 days old. The parents usually breed again in a day or so and it is not uncommon to obtain three litters within the year.

Most litters arrive between April and September although the arrivals may be expected any time during the year. It is of interest that age does not seem to be a factor in the life of the animals anent reproduction; they continue to function even in their old age of a dozen or so years.

In the span of life enjoyed by the Chinchilla it is worthy of note that he is usually free of serious or contagious illnesses, something that few human beings can boast. Chinchillas require no vaccination, inoculation, or medical treatments of any sort.

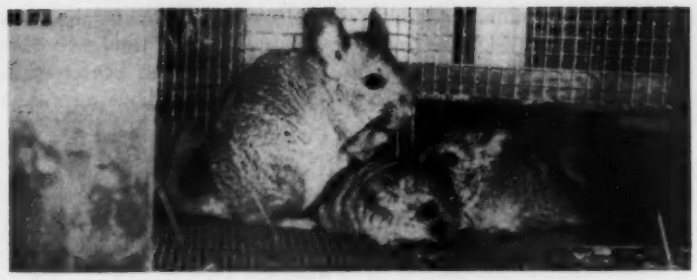
The fur of the animal is actually too thick for vermin to breed, hence, fleas, lice and mites are conspicuous by their absence. The fastidiousness of the animal is remarkable to the degree that there is very little chance of their eating contaminated food.

General Summary

The animal in physical appearance has rare beauty. Large sparkling black eyes, ears and tail poised alert, long quavering whiskers — all contribute to the princely appearance of this rodent. The Chinchilla shows an admixture of intelligence, timidity, curiosity, independence. It is rare that he is belligerent or indifferent. They seem to love care and attention and they are worth it when it is considered that a breeding pair will bring $1,000 to $1,600 in the market.

They have large, strong hind-quarters for jumping; the front legs are very small and the paws are really more like hands with relatively long fingers which they can use in adept manner to hold food or objects that strike the fancy. In the examination of the animal from a physical angle the tiny paws are really an intricate piece of nature's work; claws are missing so that scratching, burrowing or digging is not known to the Chinchilla.

Chinchillas dislike handling and when caught will struggle for



Chinchillas in Their Nest Box

freedom but will not bite unless greatly aroused. They will eat from their keeper's hands and climb upon his shoulder to investigate just who and what the human being looks like — his benefactor. He will search for tidbits on the person; he will recognize strangers at once and will recoil. When living conditions are to his liking the animal has a preference for his own pen and environment; he will, however, readily set himself up in a new home if it is to his liking.

The female of the species rules the roost in the Chinchilla household. She is larger than the male and makes good use of this advantage. She is always jealous of her mate and will resort to effective means to discourage feminine competition or unwelcome suitors.

They make splendid mothers and seldom need human help in raising their young. These mothers will call on the fathers to aid in the household, the same as any dutiful husband should do in his own home. The male will give any help needed for the children such as guarding them and keeping them warm.

Owners find the raising of Chinchillas a very fascinating hobby or business. Whether a hobby or a business, it can be a very profitable one since a person can take care of twenty pair in spare time. The Chinchilla owners in this country and Canada have formed a well-welded association to promote the welfare of the industry and to gather and distribute pertinent information on all phases of Chinchilla activity, to publicize the fur, market the pelts and to maintain a registry of pedigrees for the members.

A Profitable Business

In December, 1938, Mr. and Mrs. Coston Crouse, West Stafford, Connecticut, bought a breeding pair of animals. Their herd now numbers about 300 and is one of the largest in the world today. Mr. Crouse is a Director of Public Service Training, Connecticut State Department of Education. Mrs. Crouse is an erstwhile teacher. They began raising Chinchillas as a hobby; it became an obsession and it is now a very profitable business, all done in spare time; a concrete extra-curricular activity in progressive education that is really worth while.

The domestication of the Chinchilla is a new and novel story in the field of animal husbandry. Whereas other creatures, including the rival fox and mink, were domesticated from unlimited supplies of wild stock, the precious American Chinchilla of today, via Spain and the Andes of South America, has sprung from a position where just eleven animals, only three of which were females, stood between survival and extinction of the species. From this verge of extinction, our American Chinchilla is well along its way, and with a destiny that makes us recall that "a thing of beauty is a joy forever."

What Lucius Junious Columella was to animal husbandry in the time of Julius Cæsar, what Sir Richard Arkwright was to the British textile industry, Samuel Slater to the American cotton textile industry, Joseph M. Jacquard to fancy, intricate weaving, Louis Pasteur as the savior of the silk industry and Hilaire de Chardonnet, the father of the rayon industry, so is Mathias F. Chapman the savior of the Chinchilla industry. A salute to him for a job well done! — END.

THE FACTOR: GODFATHER OF TEXTILES

"Upon my life, it is my factor's hand . . . I'll think on the account!" exclaims Christopher Marlowe's statement-scanning merchant of the sixteenth century. By William Hurd Hillyer.

By his very name the factor reveals his time-honored calling. The Latin "facere," to do, gives us "factor," one who does or effectuates. In the realm of enterprise he hastens cash to the seller and warrants the buyer's solvency. In many respects he is a silent partner. He enjoys the confidence of producers who entrust him with their accounts receivable and of bankers who let him employ their funds in making advances to such producers.

Such has been his role since the days of Abraham. Indeed the patriarch himself, as owner of many flocks and herds, may well have had dealings with factors. They were important people in Ur of the Chaldees during the reign of King Doongi — twenty-three centuries before Christ and 300 years before the Father of the Faithful. One Ur-Nusku, a Sumerian "damgar" (factor), was active there as early as 2248 B.C. His transaction of that date, involving a large sale of palm oil, is factoring's earliest record.

Shamgallu . . . FACTOR

The Code of Hammurabi, contemporary with Abraham, sets forth the factor's functions quite clearly. Known as a "shamgallu," he worked on a commission basis and warranted trade credits. What he took in, less his commission, was placed to the account of his principal, who received itemized statements at regular intervals. Following a similar pattern, he did business as "egdocheus" during the Ptolomaic period, and received his final designation of factor under the Cæsars. To the end of the Roman Empire his aid was invoked by opulent Senators who found that his services in managing their estates gave them freedom from burdensome detail and from financial annoyances.

Rise Throughout Europe

The Dark Ages, with their lapse of commercial chronicling, wrought him temporary obscurity. Following his reappearance in 13th Century Florence, the factor flourished throughout Europe. The reflorescence of factoring was coincident with improved Continental trade and industrial conditions.

As we image the factor practising his profession in the 13th and 14th Centuries under the protection of the Italian city republics, we realize that he helped to inaugurate the Renaissance. His increasing activities paralleled a radical change in merchandising. From the fall of Rome to that time, merchants were ever traveling and had no fixed place of business. Sedentary merchants came into being with the rise of trading and financial centers in Italy about the year 1200. The permanently located merchant traded even farther afield than his itinerant forerunner, because through factors he maintained continuous and intimate contacts with economic regions outside of his own. To these factors he delegated control

(*continued on following page*)

of his merchandise and money; he looked to them for the handling of his foreign affairs as well as his immunity from credit losses.

Notable among the trading partnerships of that day was the Florentine house of Bardi. In 1318 the Bardi had 1,266,000 lire of capital, equivalent in present purchasing power to $20,000,000. The firm employed 300 men and maintained branches at Antwerp, Bruges, Paris, London, Majorca, Rhodes, Cyprus, Constantinopole and at the papal city of Avignon. The Bardi bought and sold wool, cloth, plate, grain, spices and other commodities. They effected transfer of funds, received deposits, loaned money, performed many and varied services, which even kings did not scorn to enlist. The Bardi themselves were merchant bankers, not factors. They employed *fattore* (factors) to handle business for them in certain places other than Florence.

Early Italian Factors

Francisco Balduccio Pegolotti was one of these Bardi factors, his name appearing on the firm's books for the first time in 1310, when he was about twenty-one years old. Thence forward he was increasingly active: paying drafts drawn on his house by Naples bankers, dealing in silks, soaps, sugar, Alexandrine gingerbread; trading with the Order of St. John in Tuscany to the extent of 133,000 florins, and procuring a highly favorable customs concession for Florentine living in Antwerp.

Meanwhile, there was functioning in London under the tutelage of Doffo de Bardi an informal group of factors, each in business for himself and each having out-of-London clients. Pegolotti was sent there in 1317 to replace Doffo. Modern factoring annals officially open with the appearance of Pegolotti's name on the Rolls of the Exchequer in October of that year. He figures often in public and private records as having dealings with merchants, municipalities, princes, kings and popes. He left London in 1321 to follow the "wool route"— Libourne by sea, thence overland to Montpelier and through Aigues-Mortes by water to Tuscany.

England's Important Contribution

Factors were first royally noticed in English history shortly thereafter. In 1318 the King of France wrote to King Edward II of England on behalf of two Montpelier merchants who had sent textiles valued at £10,000 to Jacques Bain, Guirand de Romgante and Girard de Byolkes, *factors*, "dwelling and doing business in the city of London." The king complained that his French subjects had not yet received a satisfactory accounting and settlement.

As ally of all who spin and weave, the English factor's notable position in the industrial economy of 14th to 18th Century Britain forepatterns the development of the modern textile factor in the United States.

Where Factors Flourished in Early London

England's wool commerce, which next to agriculture had always been her economic standby, changed from raw to finished products in the early 1300's. British wool had hitherto supplied the looms of Germany, Italy and the Low Countries. With the aid of factors and specifically encouraged by Edward III, woolen goods for export began to be manufactured. Edward extended his protection to the Flemish weavers who had settled in Yorkshire, and British textiles soon rose to prime importance.

Factoring in the 14th Century

Before 1300 travelling merchants visited Yorkshire and bought for cash the relatively small output of woven goods in what amounted to a house-to-house canvass. With the growth of export this system was superseded. Clothmakers banded together and sent consignments of goods to London, where the export trade was concentrated. Spot cash purchases were seldom practicable, because export by its very nature required a certain lapse of time for the money to be collected from abroad.

A common and convenient meeting place for buyer, seller, and moneyman became desirable towards the end of the 14th century. To provide such quarters Blackwell Hall was acquired by the Mayor and Commonalty of London and was dedicated to the woolen industry in 1397. A great trade grew up in and around that edifice, which was for four centuries the center of English textile distribution. The "Blackwell Hall Factor" was a romantic figure. How could he be otherwise — in that already venerable structure with its garden and "appurtenances" and with the arms of the Hall's former owners over the entrance, to wit, "a Gerond of twelve Points Or and Azure"? And the twenty-first year of the reign of Richard II, Richard Whittington being mayor, it was decreed "that no Foreigner or Stranger should sell any Woolen Cloth" elsewhere than in Blackwell Hall, "upon pain and forfeiture thereof." The official who so ordered might well have been that ambitious Dick Whittington of nursery narrative.

Factors of the Hall were recruited at first from the ranks of resident "foreign" factors, who drew on their principals abroad at six months or longer and then anticipated these drafts for a consideration. As time passed, the English-bred factor took over. By 1660 he had become so essential to the woolen cloth trade as to call for a protest against alleged monopoly. His services, similar to those later performed by the dry goods commission merchant in America, consisted of five steps.

(I) The factor received and stored the goods consigned to him by the producer.

(II) He made cash advances to the producer on the security of such merchandise.

(III) When he sold the merchandise on terms of from one to six or more months he bought outright without recourse on the seller, or made further advances against, the buyers' obligations. He charged a commission for selling and also factorage plus interest on advances.

(IV) He advised the producer of the buyer's financial responsibility and vice versa.

(V) For a consideration he warranted the buyer's solvency.

The Rise of Talcott

"Factors," writes Joseph Addison in his 18th century *Royal Exchange*, "are to the trading world what ambassadors are to the politic world."

The textile "non-recourse" factor, wherever located, was and is essentially a merchant, performing certain recognized functions for other merchants and for manufacturers. In America he developed, like James Talcott, from the dry goods commission merchant; or, like William Iselin & Co., he evolved from the "foreign"

agent-merchant-banker whose primary emphasis was on imports.

Talcott came to New York in 1854 with $200 to sell the output of his brother's Connecticut knitting mill. He was so successful that other mills made him their agent. Within two decades he became a multimillionaire, doing an immense business and calling himself a commission merchant, though really doing the work of a Blackwell Hall factor.

Near the turn of the century, improved transportation and quickened trading tempo led the mills to ship goods direct to buyers instead of first to Talcott. As this habit grew the problem of keeping his "factor's lien" on goods that he had never physically possessed vexed Talcott and his fellows not a little. After some costly experiences they hired Charles Evans Hughes, later Chief Justice of the United States, to dub them "factors" and reach back into English law for precedents that would give them protection. Since that time the Talcott firm has ceased to be a selling organization except through "selling agents" whom it finances. Its principal business consists of buying open accounts, with or without recourse; in the latter case it "guarantees" the credits.

Iselin Comes to America

The first Iselin, on the other hand, came to America in 1808 from Basle, Switzerland, and by 1819 was doing an import business, mainly from that country, at 21 Broadway. After successive removals and firm changes, A. Iselin & Co. became established as bankers at 47 Broad St. and financed textiles consigned to them by Austrian, Dutch, Belgian, French, German and Swiss manufacturers, and guaranteed the solvency of American buyers.

Since 1864 the drygoods activities have been conducted separately under the name of William Iselin & Co., now known as factors and affiliated with the Commercial Investment Trust. Increased stress is laid upon "the purely financial or factoring" end. Fully 95% of the firm's business is in domestic rather than imported merchandise. Unlike Talcott, however, it still devotes space on its premises for the storage and display of merchandise, besides the maintenance of selling, billing and shipping facilities.

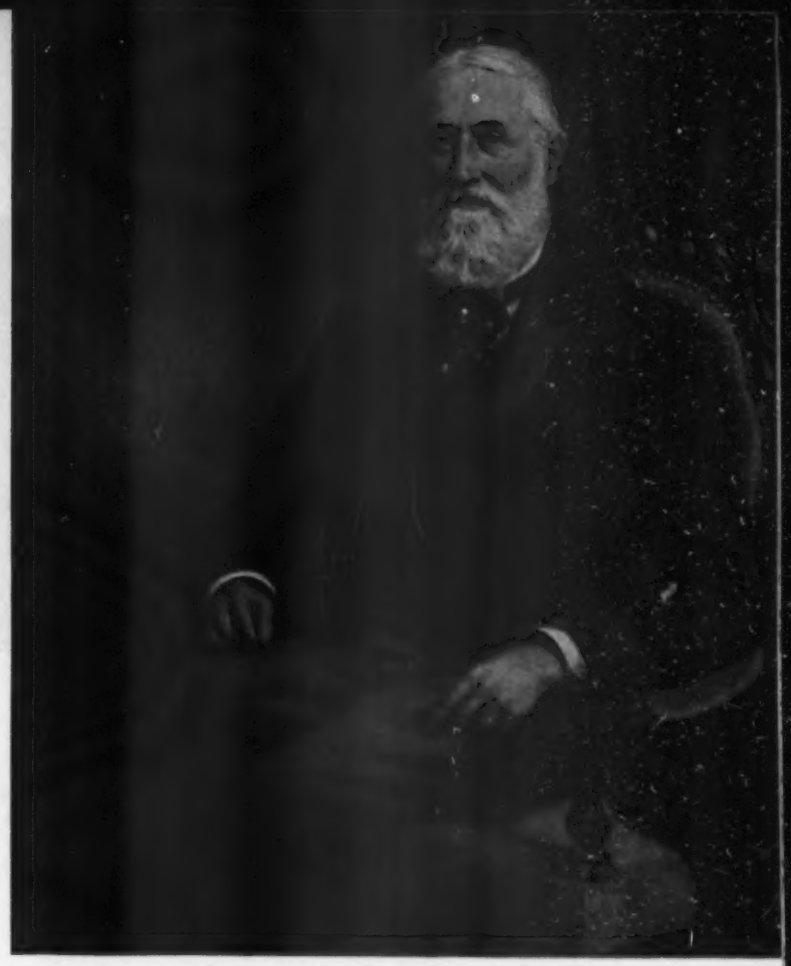
The complete round of factoring development, from foreign agent with its successive stages to domestic-financing concern, is exemplified by histories of the three units comprising the billion-dollar-a-year Commercial Factors Corporation. These units have the picturesque firmstyles of Fred'k Victor & Achelis; Peirls, Buhler & Co.; and Schefer, Schramm & Vogel, established respectively in 1828, 1893 and 1836. Founding partners in each instance came to the United States from Germany in behalf of one or more European textile producers. Later, when expanding sales taxed the foreign manufacturers' working capital, these firms said to their American commission merchants, "See here, we can't tie up any more of our capital. What can you do for us?"

To which the American firms replied, "We'll advance the duty as your goods arrive. We'll sell them, guarantee the buyers' responsibility and make such further advance as will give you the equivalent of a cash sale less reserve for merchandise disputes and our compensation." This they were able to do, by supplementing their own funds with that of banks in the United States and abroad. Pierls, Buhler had exceptional facilities of such sort because the partners were sent over here by R. D. Warburg & Co., rich Hamburg merchants of Kuhn Loeb banking affiliation.

Post World War I Period

Around 1900 the McKinley tariff stimulated American-made goods at the expense of foreign. The erstwhile importing merchants took on domestic accounts, both for selling and financing, as their import business declined. Eventually, following World War I, their activities became almost wholly financial and domestic, carried on primarily for the benefit of smaller or newer mills needing more working capital and desiring less credit risk.

Some of the best mills could never have succeeded without the factor's services. Whether performed by domestic or foreign



James Talcott, from a portrait painted by William R. Derrick. The original painting now hangs in the Chamber of Commerce of the State of New York, through whose courtesy it is now reproduced.

specialists, these services are now primarily concerned with credit and money rather than with selling and merchandise.

Among the factoring houses that have passed the half-century mark are L. F. Dommerich & Co.; H. A. Cæsar & Co.; Crompton, Richmond Co.; C. A. Auffmordt & Co.; all of New York. A few substantial old firms, such as Deering, Milliken & Co., Inc., are still listed as "drygoods commission merchants" but are presently occupied with their own manufacturing and selling interests.

New Types of Factoring Firms

Newer organizations of the John P. Maguire & Co. or Textile Banking Company type have no merchandising background and are purely financial in character. Such concerns seek to augment the manufacturer's working capital by outright purchase of his accounts receivable *without recourse* on him or by making advances against assignment of such accounts *with recourse.* Though a large volume is now done in "recourse" financing by banks and other lenders in New York and elsewhere, the traditional factoring method — *without recourse* and with *credit warranty* — is still preferred in the textile world.

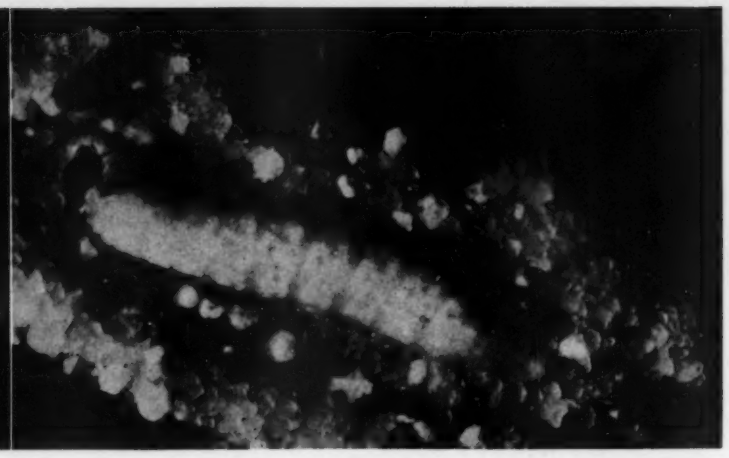
Chief reason is that "straight" factoring does not appear as a loan on the client's balance sheet and, so far from increasing his liabilities, may greatly improve his working capital ratio.

Total factoring volume in textile and allied fields is currently estimated at close to two and one-half billion dollars — preponderantly "without recourse." This figure does not include the multi-billion dollar volume of non-textile factoring, largely "with recourse," in which banks, finance companies and "finance factors" are active.

* * *

The textile factor of today has forsaken his dingy cloth-piled storehouse for air-conditioned offices and he handles millions instead of thousands of dollars. To his traditional functions he has added styling, marketing research and various advisory services in keeping with the times. His work-pattern is flexible to individual needs and he is the begetter of loom and spindle profit. END

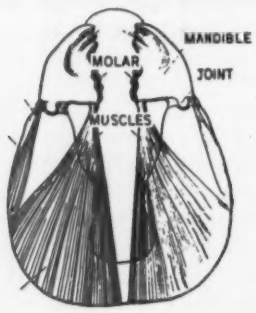
Clothes moth female laying eggs.



The clothes moth larva in cocoon.

INTERESTING FACTS ABOUT THE CLOTHES MOTH

Its Life History . . . Its Digestive Process



The sketch shows mechanical structure of the mandibles which serve as cutting and chewing tools for the moth — excerpts from "Mothproofing of Woolen Materials in Europe," published by Textile Research Institute.

Werner Von Bergen research director of Forstmann Woolen Company states that while many substances have been suggested, there are three main general methods of protection against clothes moths:

1. Use of substance to wool which renders it immune from attack either by making it useless as food for the larvae or by incorporating into it substance which is poisonous to the larvae in extremely small amounts.

2. Storage in atmosphere inimical to moth life, involving a closed chamber package substance.

3. The periodic spraying of wool goods and their storage places with fluid insecticide.

WHILE THE MOTH is virtually eating holes in the nation's pocket, the man in the street knows very little about the "villain of the piece." He may know that it is the moth larva and not the flying miller which is responsible for those expensive mouthfuls, but does he know that moths can hop, that the female seldom flies and that the larva chews and gnaws as well as bites, eats through a feeding tube and hates the light but has no eyes?

Adult moths, for the most part, are males. The females, burdened with eggs, are seldom seen. Both sexes live entirely on the fats stored during the larva stage and both are able to creep through the smallest crevices, penetrate the most tightly folded fabrics, there to propagate their species . . .

And that's where the trouble begins.

Eggs are laid from which the larva develops. This larva, fully grown, weighs, shortly before the chrysalis state, about 7.7 mg. Since the average weight of one egg is 0.026 mg., an adult weighs nearly 300 times more than an egg, and the destruction to material wrought by the larva corresponds to this increase in weight.

The time required for the larva to reach the pupa stage is dependent upon temperature, food and environment. Development is rapid on cow and rabbit hair, slow on dyed worsted fabrics.

The body color of the young larva is white or cream-yellow. The first coloration appears at the biting jaws or mandibles, as the self-color of the chitin. All chitin parts of the head finally turn dark brown, whereas the rest of the body remains yellowish. Sometimes the colored contents of the intestine are visible because of the transparency of the body.

After leaving the egg the young larva immediately begins to spin. The silk-forming organs are long tubular glands alongside the center of the intestine. The spinneret is a pointed appendage of the middle lower jaw. The silk thread spun by the larva serves a double purpose; attached to any surface it enables the larva to move along; and, together with edible textile material or even foreign matter, it is employed in building a feeding tube and later a cocoon. This feeding tube is constructed of thin layers of silk, covered in most cases with wool, but sometimes with other fibers such as rayon or cotton, which are bitten off but are not digestible. The feeding tube in which the larva prefers to remain during its entire existence, although it can live and eat without a tube, is roomy enough for the larva to move about; often it is from 10 to 15 times the length of the larva. The tube's length is extended as the larva seeks additional food and its direction may be straight or run in circles. Because it is constructed largely from the material on which the larva is feeding, the tube takes on the same general color and thus is involuntarily camouflaged.

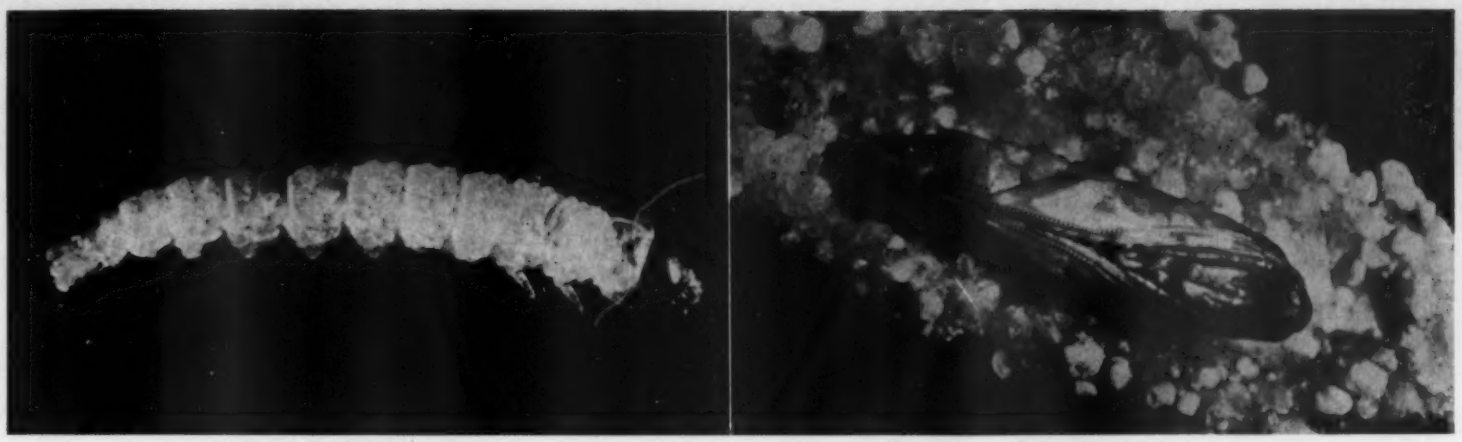
There is a distinct difference between the tubes of the webbing clothes moth and the case-bearing clothes moth—the two common varieties of clothes moths. The former firmly attaches its tubes to the surface of the material, whereas the latter moves around with its portable case.

In the larva stage the moth attains a length varying from 0.8 to about 11 mm. during which time the skin may be shed 17 times.

Effectiveness of Strong Sun and Light

The larva always lives in dark places and quickly withdraws into the shade or half-shade when it encounters light, though it does not have eyes. Strong light kills it.

The head of the larva is smaller than the head of a pin. Most remarkable is the biological, mechanical structure of the head organs which serve as cutting and chewing tools for textile fibers and even harder materials such as horn, quills, etc. The organs of the lower jaw are: the underlip (mentum and submentum); to the left and right of it, projecting like telescopes, are two maxillae; and in front of the maxillae are the true biting jaws, the mandibles.



The clothes moth larva.

The clothes moth pupa.

When not in motion these might be compared with a pair of mole's feet. They consist of chitin and are red-brown in color. They are triangular and hollow and are fastened to the lower edge of the cranius by ball-and-socket hinges. On its upper part (dorsal), each mandible is provided with five cutting teeth arranged similarly to the fingers on the palm of a hand.

"Toothmarks" or a whole impression of the mandibles with the five chitin teeth are frequently visible on the attacked fiber. Some fibers are attacked from the side, some clipped off sharply. Fine wools can be bitten through by young larvae, each fine hair seized and clipped off. But thick hairs have to be attacked from the free end. Only at the end of the larva stage are thick hairs attacked. Young larvae make it easy for themselves by continuing the attack on fibers started by older ones.

Not only wool and animal fibers are clipped off, but also vegetable fibers such as cotton, kapok, and man-made fibers of all kinds when these materials are mixed with wool. Moreover, when rayon has been stored between woolen goods, moths have damaged the rayon.

The Eating Mechanism of the Moth

When inactive the mandibles are closed and are concealed behind the upper lip. They are in juxtaposition, or slide past each other, and the complex organ behind or below the jaw, like an underlip, the so-called Mentum (containing also the spinneret and the antennae), and the two lateral maxillae, belonging to the organ of the lower jaw, are also closed when inactive. If the larva is preparing to eat, the mandibles open and the upper lip is drawn back—that is, the lip is lifted up by the spreading out of the mandibles. The maxillae are lowered to the left and the mentum becomes visible like a tongue covered with fine teeth. The whole organ of the lower jaw is moved back and forth. The maxillae have the function of auxiliary organs, projecting like movable telescopes, and move the fibers into position.

The wool fiber is usually seized not far from the end. The fiber then lies in the ridge between the upper lip and the mandibles, the point in the direction of the gullet. By a movement of the upper lip the fiber is pushed further into the mouth. Then the mandibles are closed slowly and the fiber is cut off with a jerk. Through a sort of swinging motion and by tipping it over, the larva raises the cut-off fiber, and it stands, so to speak, upright in the mouth. A few motions in the direction of the gullet move the piece into the entrance of the alimentary canal. After the first bite has disappeared, the larva in most cases, seizes the same fiber and chews off a few more bites before it moves along to the next piece.

If the larva comes in contact with threads without ends, curved or bent fibers, it simply cuts through them and then treats both ends like single points.

One thing is not quite clear about the larva. This is its capacity for scent and discrimination. Can it distinguish the different kinds of fibers by taste, smell, or some other instinctive faculty? The larva, as a keratinophage (that is, capable of digesting only keratin and casein) naturally prefers first of all, wool, hair, feathers, etc., but it is also certain that, in a mixed fabric, the larva destroys all other fibers, which, although they cannot be digested, are carried into the alimentary canal somewhat like ballast and are excreted, chemically unchanged.

The "Eulans"

The knowledge that all fibers except keratin and casein are in no way changed in the alimentary canal is important to the development of a permanent mothproofing treatment. When wool is treated with 3 per cent Eulan CNA and Eulan NKF Extra and with bad-smelling solutions added to camouflage the Eulan, larvae leave it strictly along. They prefer to starve to death rather than eat any appreciable amount of Eulan-treated wool, or ballast such as rayon, cotton, etc. When a larva takes one or two bites of the treated wool it discharges a viscous and sticky excrement which traps the larvae and makes their movements very slow and fatiguing and confines them to a circular movement. Larvae which have eaten only traces of Eulan-treated wool suffer considerable disturbances of the intestines.

When a larva is well-filled with wool untreated by Eulan it stores the necessary food reserves and then the spinning of the cocoon begins. For this the larva builds a dense and solid structure, the inside consisting of a heavy layer of silk; the outside very carefully camouflaged so that the cocoon looks exactly like the background, while the feeding tube sometimes shows parts of the white silk. Sometimes other materials such as leather, cork, asbestos or even sand are used in making the cocoon, and, as in the construction of the feeding tube, also pellets of dead larva and exuviae.

The Life Cycle

The cocoon is much denser than the feeding tube because it must prevent excess evaporation of water from the larva's body. Nevertheless mortality from drying is considerable. In the cocoon the larva remains dormant for a time, then contracts and is changed into the pupa, which varies from about 4 to 7 mm in length and usually weighs 3 to 9 mg. Duration of pupa stage varies from 14 to 44 days and the age of the pupa can be estimated by the change of color during its development.

After splitting the pupa shell, the insect is entirely white, but turns yellow after 10 to 15 days at room temperature. After a few more days the wings and legs are dark brown. In another 2 to 3 days the moth is ready to emerge.

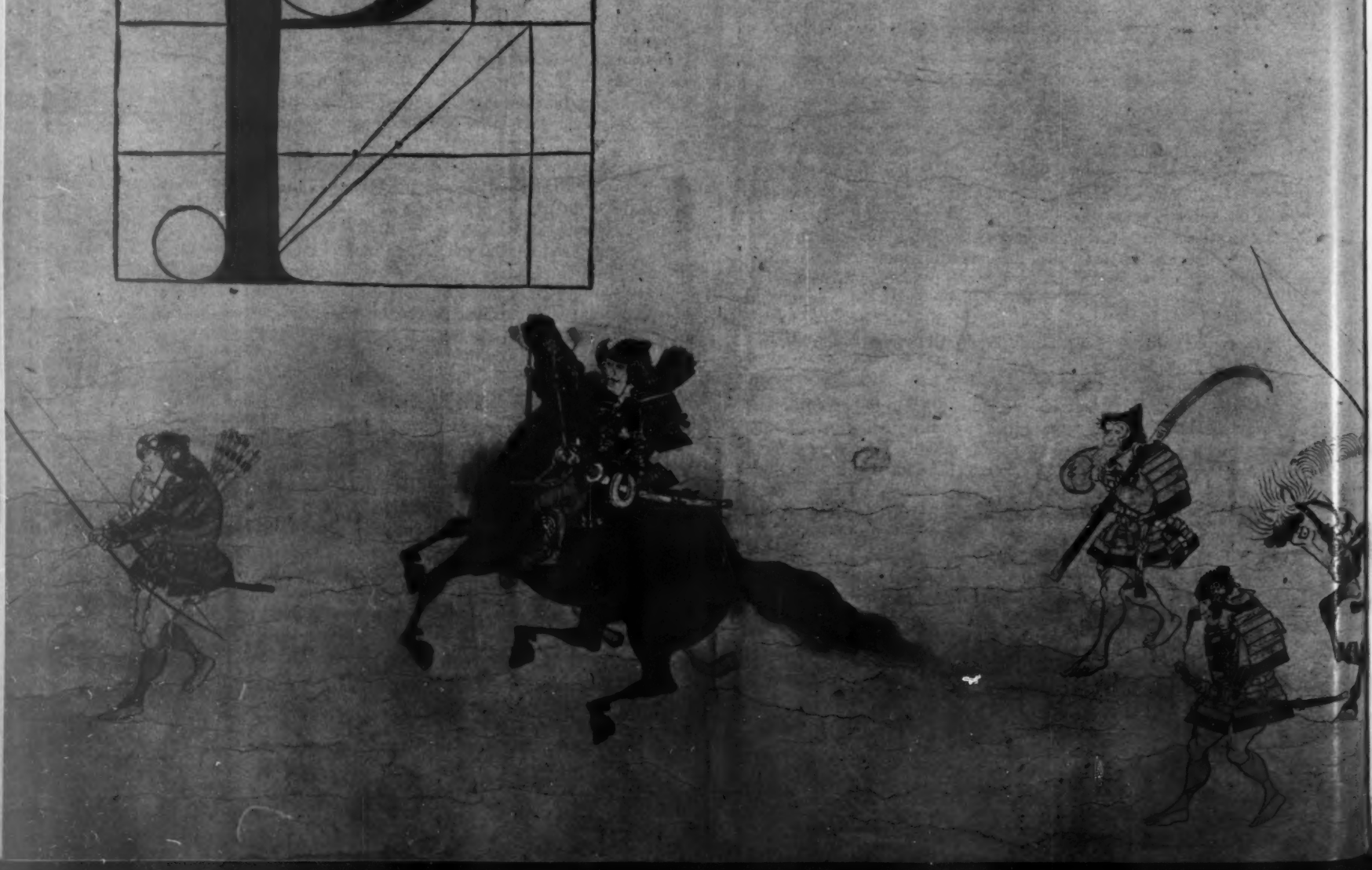
And the whole vicious circle begins all over again. — E. M.

Above: Chinese Landscape. Below: Chinese Warriors. Courtesy Metropolitan Museum of Art.

PICTURES

ONE IS WORTH
A 1000 WORDS

CHINESE PROVERB



BREAK IT UP . . .

A plea for broken surface effects in plain color men's wear fabrics.

THE NEXT TIME you have occasion to be part of any well-dressed throng of men and women, make this little survey for your own education:

Note that if ten women in the group are wearing plain color suits, no two suits will look alike. Why? Because a degree of texture interest has been introduced into the women's suitings.

But if ten men are wearing plain gray or plain blue suits, they'll look as though they'd made a group purchase at wholesale from one manufacturer. Maybe a few of the suits will be double-breasted instead of single, but that's as far as the distinctiveness will go.

Overcoming Male Reluctance

The textile industry must take strong cognizance of the fact that men's clothing manufacturers and men's clothing retailers are more than slow to work up new design ideas; it takes almost a cataclysm in the men's industry to move a waistline up or down a half inch. It takes a combination of miraculous rayon suitings plus powerful promotion to get the men's clothing buyers to accept rayon summer suits. The men's clothing industry, by and large, is convinced that men won't take to new style developments the way women embrace them . . . and maybe, to some degree, they're right. But whether or not it is the male's natural reluctance or the maker's conviction, the fact is that the avenue to both increased volume and sustained profit in plain goods must be paved with new ideas — and these new ideas must stem largely from the fabrics.

Taking the classic plain gray flannel and the plain white broadcloth shirting as examples: we shudder at the prospect of a return to out-and-out price selling in these fields. Such was the situation for years before the last war, and such must naturally be the situation again once consumer demand and availability of supply meet. But . . . if mill technologists can add something new to the staple gray flannel — can break up the plain colors of surface of a solid shirting, something which keeps them within the mass preference field yet imparts a mark of distinction . . . we believe these fabrics can be kept off the battlefield of price, to the pleasure and profit of everyone. Reflect for a moment on the curly-twist Montagnac — a classic example of what surface distinction was able to accomplish for a plain color in overcoat fabric.

Broken Surfaces for New Interest

We are far from being technically versed to the point where we can say, "Do this and that." But we do know that the magnificent talent and genius and energies of our textile industry can come up with a number of sound ideas, once the path is pointed. We cite, for example, what one mill did in the field of tie linings when tie manufacturers veered suddenly to lightweight silks. This mill developed a slight variation on one of its staple lining cloths, napping the top surface so that without additional weight there was still sufficient bulk to support and texturize the surface of the lighter fabric. * * * * We say only this:

Take the plain color fabrics which, like too many staples, become price footballs and add something in the way of surface interest. It might be a more pronounced nub; a boucle weave; a greater iridescence . . . or what have you. That, as we said, is for the mill technicians to decide and devise. Our sole point is to forewarn that plain color staples may soon revert to profitless selling; and one way to avert this unwelcome situation is to **break it up — to add a new face to the fabrics!**

EIGHTEENTH CENTURY PRINTED COTTONS

The origin of Toile de Jouy . . . Christophe Oberkampf, textile genius, elevates fabric printing to fine art . . . toiles designs in great demand by ladies of the Court of France . . . use for both fashion apparel and decorative fabrics.

ALTHOUGH the origin of painting and printing fabrics lies in the history of ancient Egypt and the East, their vogue in modern times really began with the importations of Indian cottons by the East India Company in the early 17th Century.

The demand for these Indian prints, known as *palampores, Indiennes,* or *toiles peinte,* was so immediate and so great that the European manufacturers of woolens and other fabrics insisted upon governmental prohibition of their importation. By 1686 in France, the edict of kings not only imposed restrictions on importation and domestic manufacture but even private use of printed cottons was banned.

Experiment in Printing and Dyeing

With every prohibition the demand increased. Smuggling and secret manufacture of Indian imitations throughout France merely added to their glamour. Ladies continued to turn out in their calicoes in spite of severe sentences; the least of which was a public stripping by the gendarmerie. (In 1717 persons found with Indiennes in their posession were condemned to the galleys.)

As England, Holland, Spain, and Switzerland found their trade with India and their local "counterfeiting" of the Indiennes highly profitable, French commercial interests withdrew their support of the embargoes. By the middle of the 18th Century all edicts were removed and printing of cottons in France began to reflect the artistic imprint of the Romantic Age.

With the establishment of the famous Oberkampf factory at Jouy in 1759 the great era really began. The genius of Christophe Philippe Oberkampf elevated textile printing to a fine art and made it a leading industry of France. Born in 1738, of Bavarian parents, he lived most of his life in France. His earliest experiences in textile manufacture were as his father's employee in Wisenbach. There he experimented in dye work and colorfasting by the use of mordants. By the time the manufacturing bans were lifted, he was ready to start his own business. On May 1, 1760, the first Toile de Jouy, designed, printed and dyed there, was ready.

Royal Appointment

Toiles de Jouy were an immediate success. A man of artistic perception as well as an inventive and competent businessman, Oberkampf attracted and hired artists of high caliber to design his textiles. By 1783 his factory had won such high favor that it was designated a Royal Manufactory. Ladies of the court demanded toiles designs from Jouy for housefurnishings as well as wearing apparel. To meet this market the simple flower patterns and decorative motifs inspired by the Indiennes gave way to more elaborate designs which show little restriction as to subject. As the designs became more complicated, wooden block printing, the method "borrowed" from India, became unsuitable for the work produced at Jouy.

J. B. Huet, among the most famous of the Oberkampf artists, began to use metal plates (in 1781) like those already widely used in book illustration, for his designs. Frequently wooden block printing or copper plate printing was combined with hand painting to achieve the proper color effects. Toward the end of the century printing from wooden rollers was introduced. (There is some evidence that Oberkampf may be credited with this, although a Scotsman by the name of Bell worked with rollers at the same time.)

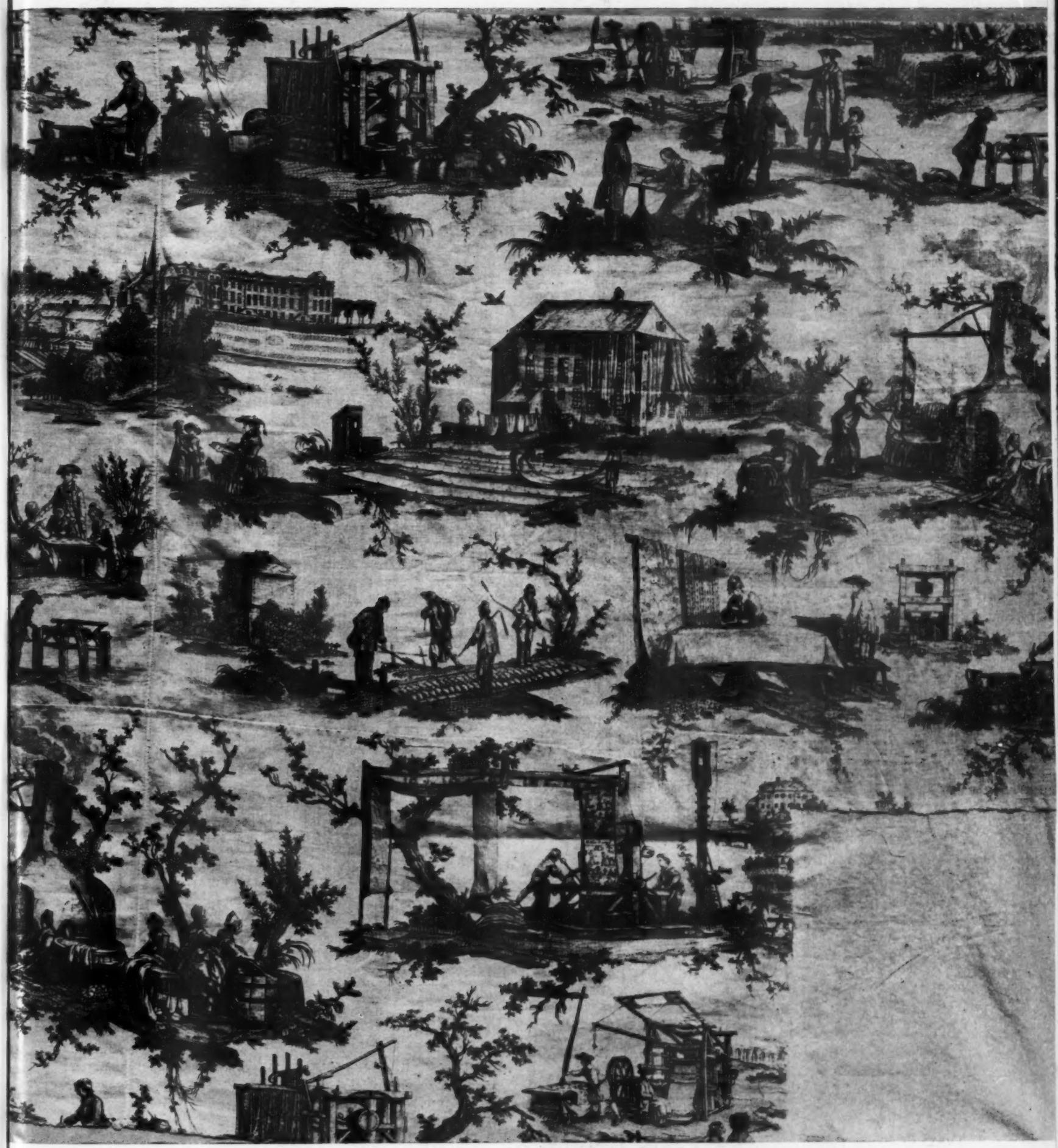
Nor did the level of artistic work deteriorate as technical improvements were made. Huet, Horace Vernet, Le Bas, Pillement and other famous artists of the time continued to sign work at Jouy. Indeed, Pillement is better known today for his textile designs, probably done as bread and butter work, than for the paintings which brought him great fame during his lifetime.

Series of Famous Designs

The factory at Jouy, and its imitators in other parts of France and England, depended heavily upon events of local or national interest to provide inspiration for design, and to keep their goods at the fashionable level. There are many examples of stock patterns which had a center motif replaceable at a moment's notice with a newsworthy item. Perhaps the most famous of these is the "Balloon Ascension," in which a dog motif was replaced by the rising balloon to commemorate the first ascension in Paris in 1783. Oberkampf showed his genius not only in being a good news editor, but in maintaining the fashionable level of his goods, as evidenced by their continued popularity through the numerous changes of regime from Louis XVI through Napoleon. It was the economic disorganization following the Napoleonic Wars, and

(*turn page*)

On opposite page, the photo reproduces the toile design which commemorated the appointment of the Oberkampf factory as a Royal Manufactory of France.

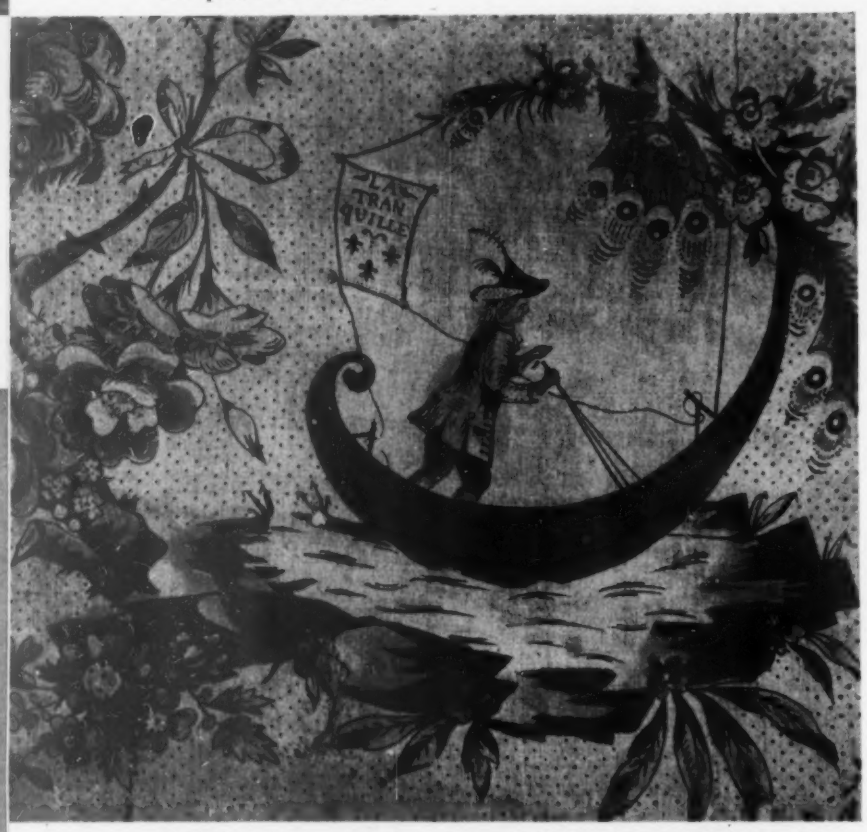


Leda and the Swan — This design shows how strongly the artists were influenced by events such as the discoveries at Pompeii which brought on a plethora of classics.

A modern reproduction by photographic screen process of the original Toile design used for current American Fabrics cover.

Photographs from original pieces in the Brooklyn Museum collection and from original fabrics in the Metropolitan Museum collection.

Old Ford — This complete bed hanging, covers and window drapery is very rare. English copper plate print in red on white linen, it is signed R. Jones & Co., dated 1761.



La Tranquille — 18th century French design showing Chinese influence.

Horse Race — Scarf of English or American origin. Design records American turf history.

Printed Cottons (continued)

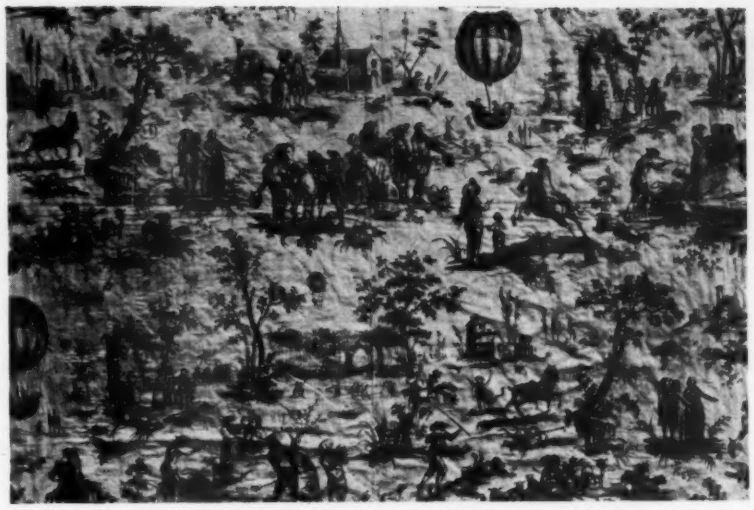
the death of Oberkampf fifteen years earlier, which brought about the dissolution of the Jouy factory in 1830.

Today Toiles de Jouy, as well as printed cottons of other French and English factories of the time, offer a remarkable record of the cultural, political and social life of a most dramatic one hundred years of history.

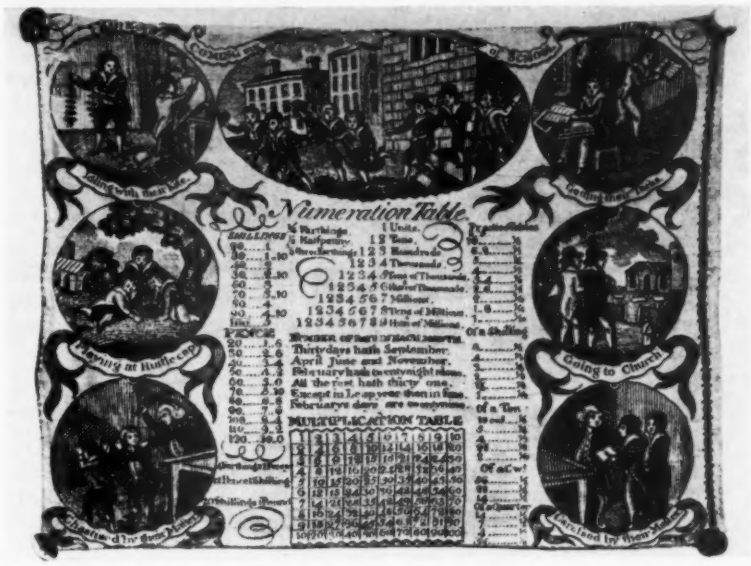
For many years designers have found inspiration in the charming and unusual palette, the varied and beautiful designs of the old Toiles. The present revival of cotton as a decorative fabric, coincident with the revival of interest in Far Eastern design sources, leads again to these 18th Century printed cottons. A few manufacturers have reproduced actual old patterns in entirety; most have contented themselves with bits and pieces.

The continuing demand for furniture of 18th Century design and the search for decorative fabrics suitable for use with traditional furniture has led manufacturers to seek processes which would allow less expensive reproduction.

The photographic screen may provide an answer. Commonly used in wallpaper manufacture, the process of printing from a photographic screen is just beginning to be employed in printing fabrics. Screens of silk or nylon, similar to those used for hand-cut screens are painted or washed with a sensitizer. The original design is then projected directly to the sensitized screen. Once the screen has been cleared it becomes a negative screen, from which cloth may be printed in the same manner as with hand-cut screens. Far from being a substitute for hand-cut screens, the photographic screen not only reduces screen-making costs considerably, but permits the use of the most involved old patterns. The Toile shown at top of page (W. B. Quaintance Co., Inc.) is being produced from photographic screen. The most elaborate yet attempted, it retains the antique character of the original Revolutionary French pattern (see cover) from which it is taken. Although the photogrophic screen limits somewhat the color shading possibilities of other processes it is particularly suited to chintz and Toile type designs, and lends itself to many special decorator fabric effects. The saw tooth edge given to line design by the unavoidable photographing of fabric weave as well as pattern adds to the old quality of the cloth. Printed in old Toile colors, such as plum, café-au-lait and rusty red, the fabric makes an exquisite backdrop for traditional furniture. In more dramatic color, brilliant green and black-green printed on pale yellow, the fabric lends itself with distinction to the most extreme of sophisticated modern settings. END.

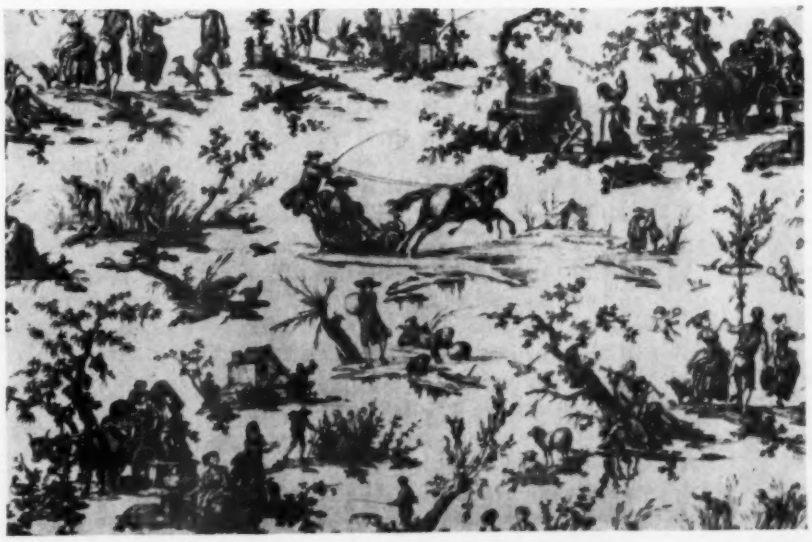


Balloon de Gonese — To record the first balloon ascension in 1783 Huet replaced an animal motif (in a pattern already well established by the Oberkamf factory) with a rising balloon. Through such simple expedients goods from Jouy was kept at fashionable level.



Boy's Handkerchief — This print in black on white, bearing schoolboy lessons and moral reminders was made in America in 1792.

Defense of Gibraltar — English copper plate print commemorating General Sir Elliot's defense of Gibraltar in 1782.



Pleasures of the Four Seasons — One of the most beautiful of the Huet scenics, printed from copper plate in red on white. Printed in 1785.

This delightful mixture of classic and pastoral figures is a French design from the late 1790's.

THE CONSUMER

The millman, the converter, the apparel manufacturer, the retailer, the retail clerk . . . all throw at Mrs. Consumer words and phrases as selling blandishment . . . all assuming that she knows what they're talking about. Sadly enough, it's gibberish to her. And so writer Cora Carlyle gathers a group of typical

Q. What is the exact derivation of the word Tweed, and who is given authority as your authority?

A. The word derives its origin from "tweel," the original spelling of the word "twill." A Scotch manufacturer, on sending a length of cloth to a London merchant, described it as a length of "tweel." His writing was not too clear and the merchant read it as "tweed." The name has remained since this episode. The authority for this statement is the late T. Oliver, D.Sc., Principal Emeritus of the Scottish Woollen Technical College.

Q. Does sharkskin mean a fabric or a pattern?

A. Sharkskin was originally a worsted fabric that usually came in popular "Banker's Gray" shade. The weave is a color-effect construction made on a 2-up and 2-down right hand twill, with color arrangement in warp and filling of one black and one white. The worsted fabric of this name, still a staple material, is of high quality and gives very good wear.

The popular understanding of the word today is that sharkskin is a plain weave acetate rayon fabric, usually in white or pastels, and widely used for women's summer sportswear material.

Q. Do dress designers specialize generally in a particular fabric or in some particular color? Kindly give an example.

A. Dress designers specialize in neither particular fabrics nor in particular colors. Some specialize in suits, or in evening dresses, blouses, sportswear, etc. The designer usually works on garments which seem to have the greatest appeal and interest. Experience is also a potent factor in the choice of the designer.

Q. Does denim come only in blue?

A. No; it also comes in green, pink, etc. We usually think of denim in blue color because of denim work clothes which are usually blue and because of the tremendous promotion (chiefly from California sources) back of the "faded blue" denim for outdoor wear. Denim is popular in furniture covering fabric and it has even been used in evening wear in years gone by; rust, henna, green and other staple shades are and have been used.

Q. Is covert fabric (which I know as a men's fabric) used in women's wear; if so, in what types of garments?

A. Yes, covert is used in women's wear — in suits, topcoats, raincoats, etc. Covert is smart in mannish-type tailored suiting for women.

Q. Can velvet ever be washed?

A. Whoever thought this one up has presented a good question. Velvet that has not been treated for crush resistance cannot be washed; it must be dry cleaned. But velvet that has been treated for durable crush resistance can certainly be washed. The method to use would be the well-known "dip-squeeze" in lukewarm water, by hand. Keep in mind, however, that the trick or technique would be to restore the velvet to its former appearance after ironing.

In a dry cleaning plant velvet is subjected to a special pressing process with steam coming through the fabric from the underside. This, as you will discern, does not press down the pile effect. In the home we do not have a machine that will project steam over a large area of fabric. Thus, it is wise to send velvets to the dry cleaner and not to try and do it at home.

Q. May jersey be considered as a fabric that will not sag or pull?

A. Yes, now that jersey fabric can be treated with resin so that it will shrink only slightly, will hold its shape, will not sag at the elbows or seat. Also, it can be washed as well as dry cleaned or wet cleaned.

Q. How do you account for the fact that gabardine comes only in solid or single colors?

A. Because of the fact that for as long as we have an acceptance or a definition of the word gabardine, it has been customary for it to be solid in color. For example, if it were printed, it would be called a "printed twill."

Q. What is a brocatelle?

A. Briefly, it is a tightly woven, elaborate, heavy fabric used chiefly in drapery and upholstery fabrics. Made on a Jacquard loom it is characterized by a raised, patterned figure so high that it appears to be "puffed-up." Warp threads may be mercerized cotton, silk or rayon; back of the goods is usually linen or cotton. Face filling is cotton or rayon, generally speaking.

Q. How is it possible for a starch finish to remain in organdy, for example, after washings?

A. A "starch finish" would wash out at once. What you probably mean is a starchless finish; this will be apparent in the material for the life of the fabric because it has been baked or cured, or aided by some chemical process. Organdy so treated will not shrink to any marked degree and has no lint or fuzz; it will stay crisp through repeated launderings without the use of starch.

Q. What is meant by the term "texture effect?"

A. It is a rather broad or general term given to materials which have variations in surface texture. There are various ways of producing surface effect — the type of yarn used, the particular weave employed, the manner of weaving, and the type of

WANTS TO KNOW...

Mrs. Consumers from time to time . . . asks them what they'd like clarified in textile terms . . . and then fires the questions at Dr. George Linton. Here is the sixth batch. The moral is: Just because you know what you mean, don't take it for granted that the other person does.

finish given the loom or gray goods. The important items to remember in material are the color which is chosen by the purchaser plus either the particular finish given the fabric or the pattern, motif or weave design used in the fabric construction. Colors, of course, have cycles of popularity.

Q. What is meant by the term "over-filled or over-wefted linens?" Also how does a "shire hem" differ from a "spoke hem?"

A. The answer to the first question — the fabric has more filling or crosswise threads per inch when compared with the number of warp threads in the material.

Shire hem means one side of the drawn threads hemstitched; spoke hems have both sides hemstitched.

Q. Why do nylon circular knit hosiery keep their shape, whereas rayon circular knit hose will become like a straight tube after washing?

A. Nylon circular knit hose, also known as seamless and bare leg, are put through a special process which sets the shape permanently. The shape is retained for the life of the hose.

Q. What is furfural and of what importance is it in textile manufacturing?

A. This is a new chemical process developed from corncobs, cottonseed hulls or bran of oats and rice for use in the making of nylon. These agricultural by-products are the sources of a chemical known as Furfural — some mouthful when you say it quickly.

Q. What is meant by Lampas, a term I heard recently about that is used in speaking of a type of decorative textile material?

A. It is a compact-textured, finely woven Jacquard material on the order of satin damask and made from silk, cotton or rayon, singly or in combination. The warp and filling are usually of different colors and they are floated in various ways to give the motif which is usually in small design effect.

Q. Please give a description of pique.

A. Assuming that you mean cotton pique, it is a medium to heavy weight fabric made with raised cords that run in the vertical or warp direction. Combed or carded yarns are used in this popular staple cloth used for women's and children's wear, shirts, vests, neckwear, collar and cuff sets, infants' coats and bonnets, etc.

Pique is very durable, launders well and is rather expensive. It is made on a dobby loom, Jacquard loom, drop-box and other types of looms. The cloth will retain its rugged characteristics irrespective of the type of loom used. Much of the fabric is given eyelet embroidery effect for use in summer wear.

Q. How may one tell if there is any linen in Butcher's Linen?

A. The term, at times, is used rather indiscriminately; unless the cloth is marked Pure Linen one may assume that it does not contain any linen. Read label well, be sure to look for it on bolt.

Q. What is the difference between Fisheye and Bird's-eye linen?

A. Fabric which has a rather large diamond effect that seems to simulate the eye of the fish is called Fisheye. The smaller diamond effect is called Bird's-eye. Both fabrics are durable, have good absorptive properties, launder well and are classed as reversibles.

Q. How do you arrive at the figure 4,464,528 yards in one pound of a Number One Denier filament?

A. There are 9072 deniers in one pound. This number is multiplied by 492.13 yards, the yard length used in weighing silk, to give the 4,464,528 yards.

Q. Why is viscose rayon said to be man-made and nylon classed as synthetic?

A. There are two major true synthetic textile filaments — nylon and Vinyon. Both are resinous in nature. Viscose, cuprammonium and acetate rayon are spoken of as being man made since they are based on cellulose obtained from cotton linters or spruce, pine or hemlock chips. All synthetic fibers are man made but not all man made fibers or filaments are synthetic.

WOOL AND WORSTED DICTIONARY

Complete bound copies of the three Sections of the *Wool and Worsted Dictionary*, eighty pages (illustrated), are available at $3.00 per copy.

Address: AMERICAN FABRICS
350 Fifth Avenue, New York 1, N. Y.

TOWARDS HIGHER LEVEL OF PIECE-GOODS OPERATION . . . Fashion-by-the-Yard is the name of a new fabric shop launched in White Plains, New York by Marjory Hafner Corn. Possessing a fine background in textiles, she was associated with her father, the late, great fabric man, August Hafner of Hafner Fabrics. Mrs. Corn will feature in her shop lines representing the finest makers of wools, cottons, rayons, and silks. Note that the shop is unique in that it has been planned to satisfy the particular fashion and fabric requirements of women in the suburban Westchester area. Complete fashion information is available for all customers, and, as an added service well known dressmakers and fashion consultants will be at the shop from time to time to discuss seasonal trends and assist the individual customer in her wardrobe planning.

HOWARD KETCHAM SAYS:

COLOR SWEETENS THE HOME

New materials used in building modern homes, and new fabrics available for home furnishings, have revolutionized the color styling of home decor. Never before in all history were we as free of limitations in coloring the home, says AMERICAN FABRICS' *consultant editor on color, and today's homemaker may use color to express her own personality.*

COLOR is the most important single decorating element in the home. Yet it lacks — SIZE, MATERIAL SHAPE, WEIGHT . . .

. . . it cannot be seen without the aid of light

. . . it is subject to change appearance under different types and intensities of illumination —

and yet it is responsible for more than 80 per cent of our impressions of the furnishings of the home interior.

In spite of its significance to such vast industries as that segment of the textile world concerned with floor coverings, draperies, and upholstery fabrics, few people are conscious of the essential facts relating to the theory and use of color.

Through the ages of civilized residential living, men have used color in the home, not on the basis of their preferences, but under limitations derived from the materials with which they could work. Periodically new developments in the production of materials used in the construction and ornamentation of homes have revolutionized the colors of life "en famille."

Today we are in an early phase of a revolution in home colors.

* * *

We note the use of colors of greater intensity . . . the use of more startling contrasts in room colors and furnishings . . . and we are often prone to accept this as a merely temporary style fad of the post-war years. Actually, we are confronted by a long-term change in the thinking of homemakers as well as of decorators.

Never before in all history were we as free of limitations in coloring the home interior. Modern fabrics offer new possibilities of increased intensity in color, available in harmonious combinations suited to good taste. Modern materials in home construction demand a new approach on the part of the decorator and the fabrics supplier.

And the modern homemaker, thrilling to the "new freedom" in home decor, is placing the demand squarely in the lap of the home furnishings industry — specifically to the suppliers of fabrics for the home.

So rapidly are we moving that a leading Fifth Avenue furniture store could report this startling change in the taste of its smart, style-pacing clientele: Six months ago the demand of 70 per cent of the public was for white enameled equipment in the kitchen; today 70 per cent want color in stoves and refrigerators, to form a part of the harmony of draperies, walls, woodwork, and flooring.

Why not? Today women's eagerness to express personality in color about the house is matched only by their eagerness to know what colors to use to express that personality. Our interviewers reported an almost pathetic desire to experiment with color-combination apparatus, to test the effects and to come up with satisfying harmonies that reflect the individual ego.

The industry that supplies the home structure is aware of the selling power of colors selected on the basis of tested preferences. How much more valuable will it be to the vastly more competitive fabrics supply sources for the home furnishings industry to know — definitely — the colors the customers want?

The facts are obtainable — and we have found the consumer ready and eager to participate in establishing them.

Greater Awareness of Color

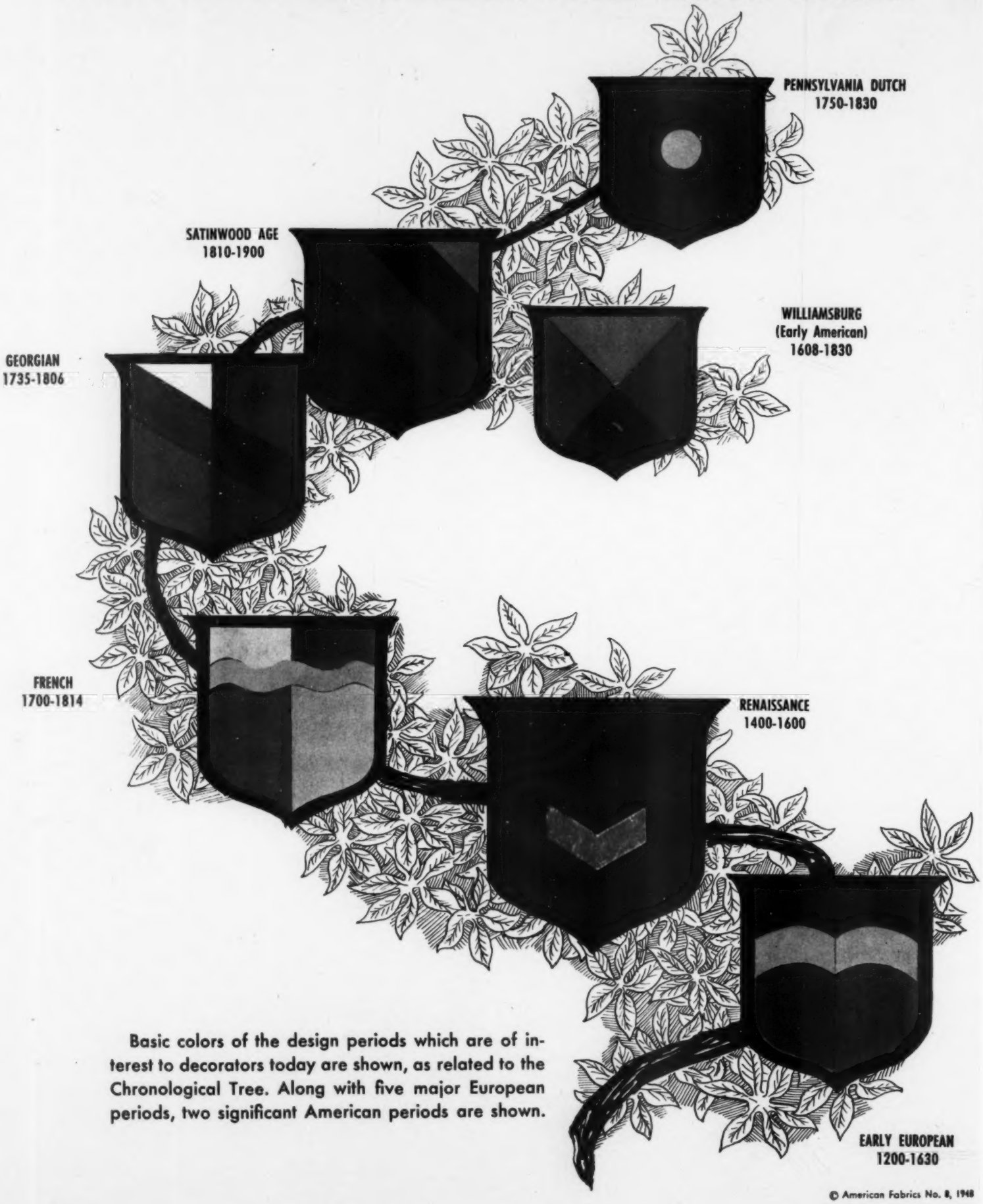
No earlier generation has ever been as alive to the power of color, or as alert to opportunities to use it. On the one hand, a composer as distinguished as Charles Ruggles will let out that he cannot compose without using a blue pencil or blue ink of a certain hue. "I guess it's because blue is the color of heaven," he told an interviewer, who hurried to spread the word about another triumph for the powers of color to govern our lives.

At the other end of the scale, manufacturers of bubble gum have announced that the appeal of their product has been bolstered by development of three hues — red, yellow and blue — from which the *aficionadoes* may make their selection!

Think, then, how chameleon-like is the role played by color in

(*continued on page* 132)

IMPORTANT COLORS OF SEVEN MAJOR DESIGN PERIODS



Basic colors of the design periods which are of interest to decorators today are shown, as related to the Chronological Tree. Along with five major European periods, two significant American periods are shown.

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CHRONOLOGICAL TREE OF THE DESIGN PERIODS

MIDDLE GEORGIAN 1727–1760. George II. 1727-60. Chippendale. (1708-1779. Chinese styles.

EARLY GEORGIAN 1714–1727. George I. 1714-27. Hogarth. 1697-1764. Grinling Gibbons. 1648-1721. Sir Christopher Wren. 1632-1724. Largely influenced by French.

LATE GEORGIAN George III. 1760-1820. R. & J. Adam best period. 1773. Sheraton Hepplewhite.

1727–1820 COLONIAL American adaptation of the styles: George II, George III, Louis XVI and Empire.

1804–1815 EMPIRE After Napoleonic wars Roman and Egyptian arts were adopted.

1799–1804 CONSULATE Continuation of Directorate or Directoire spirit. Further development of Pompeian.

1795–1799 DIRECTORATE Further influence of Pompeiian style made possible by research of the artist David.

1774–1793 LOUIS XVI Early classic style influenced by arts of the discovered Herculaneum and Pompeii.

1715-23. REGENCY 1723-74. Louis XV. Early period mythological and biblical. Succeeded by Rococo 1730. Development of Rococo.

1702–1714 QUEEN ANNE Chinese and Dutch East India influence.

1689–1702 WILLIAM AND MARY Bulbous leg forms and mouldings much used.

1660 CHARLES II To the Flemish were added French characteristics 1685-1689. James II.

1625–1649 CHARLES I **1649–1653 CROMWELL** **1653–1660**

1603–1625 JACOBEAN JAMES I Italian influence through Inigo Jones. Stuart Period.

1558–1649 ELIZABETHAN Age of Oak. Developing along German and Flemish. 1600. East India Trading Co. incorporated.

1509–1625 ENGLISH RENAISSANCE Early English or Tudor. Introduced by Henry VIII, employing Italians. 1534. Reformation. Catholic Italian workmen succeeded by Protestant German and Flemish.

1613–1715 LOUIS XIV East India Trading Co. After downfall of Charles II of England many English cavaliers fled to France.

1509–1725 EASTERN ASIATIC INFLUENCE
1500. Portuguese opened possessions, India and Persia.
1600. English East India Co.
1602. Dutch East India Co.
1604. French East India Trading Co.
1702. English encouraged Chinese style.
1725. Louis XV encouraged Chinese trade relations.

1610–1643 LOUIS XIII. Cardinal Richelieu Minister.

1509 DUTCH REPUBLIC Composing of the seven provinces North of Belgium. Dutch traders ruled Commerce 1602 Dutch East India Co incorporated.

1507 FLEMISH RENAISSANCE The Flemish celebrated for their tapestries leather, woodwork absorbed the arts of all nations.

1550 GERMAN RENAISSANCE Founded by Albrecht Durer. Much strap work, spirals, grotesque faces, female figures.

1502–1643 FRENCH RENAISSANCE
1502-15. Louis XII.
1515-49. Francis I.
1549-59. Henry II.
1559-60. Francis II.
1560-74. Charles IX.
1574-89. Henry III.
1589-1610. Henry IV.

1400–1600 RENAISSANCE Revival of the classic arts of Rome, Pompeii and Greece. In architecture the Renaissance was pure: in fabric, design and furniture it was influenced by contemporary art through commercialism and exploration.

1400–1600 FLORENTINE RENAISSANCE
Brunelleschi . 1377-1446
Bregugnone . 1450-1524
Fra Angelico . 1387-1455
Luca Della Robbia 1388-1463
Botticelli . . . 1447-1510
Andrea del Sarto. 1486-1531
Benvenuto Cellini. 1500-1571

1600 MILANESE RENAISSANCE 1452-1519 Leonardo da Vinci. 1500 High Renaissance.

1444–1643 ROMAN RENAISSANCE Donato Lazzari (Bramante). 1444-1515. Giacomo Barazzio. 1507-1573. Michael Angelo Buonarotti. 1474-1564. Raphael. 1483-1520.

1490–1600 VENETIAN RENAISSANCE 1518-1580 Palladio.

1500–1600 SPANISH or MOORISH CLASSIC RENAISSANCE

1250 ITALIAN GOTHIC Never free Gothic, was always classic.

1250 SPANISH GOTHIC Spain, one of first Christian nations, although Spanish art largely dominated or South by Moors. (See Alhambraic.)

1250 GERMAN GOTHIC German Strap work, twisted spirals, faces.

1189–1300 ENGLISH GOTHIC 1300-1400 Decorative or ornamental. 1400-1500. Perpendicular. 1485. Tudor Gothic.

1100–1515 FRENCH GOTHIC
1150. Early Period.
1200-1300. Secondary.
1300-1400. Flamboyant. Church at St. Etienne and Cathedral of Notre Dame fine examples.

700–1100 ROMANESQUE Style affected by Roman art, and Christian art, and, in countries along the Mediterranean, by the Saracenic invasion.

711–1400 MOORISH-ALHAMBRAIC 1200-1300. Kingdom of Granada. Alhambra built. See Spanish Renaissance.

1300–1500 OTTOMAN Eastern Turks, followers of Othman, called Ottoman Turks, founded Empire about 1300.

1100–1600 MONGOL Nomadic clans. Eastern Asia. 1392 Timurid and Turkoman. 1610. Mongol rule ended.

1092–1300 SELJUK TURKS Western Turks, followers of Seljuk, conquered many parts Persia and Arabia.

641–1029 ARABIAN CALIPHATE Arabian followers of Mohammed established Medina, capital of the Arabian Caliphate.

571–1500 ISLAM—MOHAMMEDAN *Arabians, Saracens, Moors, Berbers, Turks, Mongols, Persians. Mohammedan* art extended through the Mediterranean countries and Western Asia.

328–600 EARLY CHRISTIAN Term applying to the art influence of the early Christians. Byzantium.

328–1405 BYZANTINE Roman Christian Period. Constantine. Emperor Eastern division of Roman Empire. 350-800. Oriental period. 850-1005 Classic period.

862–1550 RUSSIAN Settled by Scandinavians. Influenced by Romanesque and Oriental art even into the Renaissance Period.

100–1300 SCANDINAVIAN Influenced by Celtic but unlike Celtic, designs were of unbalanced relations.

1200 B.C.–1100 A.D. CELTIC Celtic ornament showed complex but well-balanced interlacement of curved lines and animal forms.

453 B.C.–455 A.D. ROMAN followed *Greek, Tuscan Roman Composite* order. Second Century A.D. Empire extended over Greece, Italy and West Asia. Besides Tuscan and Composite, the Romans adopted the Greek orders, Doric, Ionian and Corinthian.

2000 B.C.–168 A.D GREEK Doric, Ionic, Corinthian orders. Became part of Roman Empire.

100 B.C.–79 A.D. POMPEIIAN Development of Roman and Greek arts. Pompeii destroyed by volcano, 79 A.D.

3500 B.C. CHINESE
3500 B.C. Mythic Period.
2200 B.C. First Empire.
500 B.C. Confucius.
12nd. Yeomen.
1368. Ming.
1620. Khang Hi.

1000 B.C.–321 B.C. EGYPTIAN
332. Egypt became Greek Kingdom.
30 B.C. Became Roman Province until Mohammedan invasion, 640 A.D.

559 B.C. PERSIA Persians conquered the Medes and Babylonians, established the Persian Empire. Became Mohammedan 641 A.D.

2000 B.C. INDIAN
1400 B.C.–500 B.C. Brahma Period.
500 B.C. Buddha.
711 A.D. Mohammedan invasion.
1525 A.D. Mogul Empire.
1765 A.D. English Control.

ASSYRIAN
2200. Chaldean Period.
1300. Assyrian.
640. Median.
606. Babylonian.
The people of Assyria were the Medes, Persians, Babylonians.

606 B.C.–536 B.C. BABYLONIAN Babylonian Empire which sprang from the dissolution of the Assyrian Empire. 536. Babylonian Empire incorporated by Persians.

Clifford & Lawton's summary of the influences and achievements in the periods of design styling in the history of civilization.

our homes. It can be subtle, sophisticated, tragic, serious, novel, amusing, pleasing, discordant.

Consider these combinations:

Silver-gray and chartreuse
Violet and olive
Wine-red, vermilion and jade green
Dusty rose, and deep grayed turquoise
Tan and soft grayed blue
Grayed green and beige
Bright pink, bottle green and yellow
Mustard yellow and violet

Can you relate these combinations appropriately to the moods listed in the preceding paragraph?

As I have arranged them here, the color combinations in order correspond to the first, third, fifth, seventh, second, fourth, sixth and eighth adjectives.

Why do the colors create such moods? In some instances, the answer is subjective; the colors bear a psychological association with certain experiences in our own past, which evoke the mood. The bright pink and yellow recall to us the colors of the circus, and stir an emotion of amusement, with the bottle green as foil.

On the other hand, laws governing color combination, based on demonstrable effects of harmony and contrast, are responsible for other decorative effects. It is seldom that we see two intense shades of red, such as wine-red and vermilion, used together, and it is a ticklish problem to select the green that can successfully hold them in balance. When this is attempted, and accomplished, the result is utterly novel to the observer.

A Powerful Force to Use

The laws of contrast, and of visual fatigue, together with the different character of lighting and color pigments, make it possible for us to use color in the home to create a multitude of illusions, effects, and reflections of our personality and taste.

Today it is the homemaker's privilege to use color to studied effect, to express herself. It is the task — and the privilege — of the textile industry on which decorators depend to use the modern facilities of their color processes so that just such a result may be accomplished. The homemaker should be able to use the colors she really likes, and to avoid the dullness and drabness of the conventional "civilized" colors. The colors universally considered "safe" for general use in the home — and for personal adornment as well — pay a penalty always suffered by those who place safety and security above all else.

A note of "adventure" is lost when such caution is followed. With the absence of such a note, of a tinge of derring-do, we lose the power of color to promote attention or attraction. We waste color in missing the personal touch.

Color Palettes of Different Periods

The early period of the 18th Century, influenced by such master designers as Sir Christopher Wren in the standard of taste, emphasized salmon, blue, yellow, greens, buff and brown colors. But the tone of the period, as we recall it today, is set by the classic inspiration funneled through Robert Adam — pastels, pea green, light blue, buff, pale yellow, lavender, lilac, soft gray-greens, and dove gray. White walls were popular. And the colors of Pompeiian rediscovery — terra cotta, chocolate brown, saffron, Pompeiian red, blue-greens and yellow-greens — completed the palette of the Georgian period.

In France, a series of period stylings over the course of the 18th Century established different motifs but are unified by a distinctive pervading Gallic touch throughout. Spectacular colors for the heavy stylings of Louis XIV were followed by the gaieties of Louis XV, with the delicacy of his successive favorites. Fabrics, with furniture, decreased the scale of design, with pinks, pastel yellows, soft greens and gold among the dominant notes. Classic influences again mingled with the feminine touch of the court favorites.

The classic purity of color of the Directoire period was formalized in the Empire style of Fontaine and Percier, and the colors favored by Napoleon — emerald green, dark green, red and yellow. The Empress Josephine provided a modifying touch of pale yellow and blue, dark brown, pink, apricot, mauve and gray.

The Satinwood Age of imperialist England in the substantial era of the 19th Century reflected in materials and colors the solidity of Empire. The overall effect of mauve, dark bottle green, purplish reds, deep browns was matched by the taste of America's "black walnut" era and France's Louis Philippe styles. Materials, as well as the international psychological tone, must be credited with this taste for treatments now found oppressive.

Williamsburg and Pennsylvania Dutch

Two American color palettes may be mentioned with the historical past of colors in the home.

Williamsburg colors were in subdued range, with prominent hues including two dull reds, variants of orange — dulled yellows, peach, etc. — and blue-greens ranging from bright green with a little blue cast to a dull blue with a little green overtone.

In the back country behind Philadelphia, a colony of Pennsylvania Dutch — amalgamating the skills and taste of Germanic and Swiss immigrants — furnished a peasant art that has in recent years strengthened its hold on our imagination. The practical, simple palette with which the "Plain People" decorated their pottery tinware, utensils, furniture, and barns included preponderantly rusts and dull greens, with an occasional touch of brilliant orange, yellow, red or green, or a subdued blue.

Accompanying illustrations describe the major influences of the various post-medieval periods, and the colors that dominated the major epochs described above.

* * *

As styling approached the modern period, we experienced the sweeping changes that brought us from Victorianism to our present free era — the muddy Edwardian colors, the influence of Diaghilev's Russian ballet, the combination of pastels, primary colors and white which marked the period after World War I, and the practical limitations of World War II shortages.

Quickening of Fashion Impulses

Today, we enjoy a technology which places the power of our taste as the major directing factor in using color. Our home color treatments respond almost as quickly as do the fashion stylists to new trends. In such inland cities as Des Moines there may be a lag of a few months between fashion and interior furnishing styles in color and materials; in New York, the changes occur almost simultaneously.

Last spring, for example, metallic thread became an important factor in fashion fabrics, and in the home furnishings field as well. The influence of textures in home fabrics has even spread to areas of metal surfaces, with the new Rigid-Tex patterned metal coming into use for venetian blind strips, for light switch covers, and other features.

Nylon, with its unique qualities for color, has come into the home picture. Nylon upholstery fabric woven by Burlington Mills has been tried successfully in railroad coaches, winning over 75 per cent of the vote in a test among commuters of the Jersey Central Lines. Not only does it have color appeal and qualities of color fastness, but the texture of its varied weaves and its durability offer exciting new prospects for home use. And tests show that its smooth filaments not only offer comfort through

decreased friction with clothing fabrics, but reduce the "wear" effect of upholstery on clothing.

Recent reports indicate that we may expect a nylon upholstery fabric styled for home decoration. And the Nye-Wait mills of Auburn, N. Y., has come out with two nylon luxury carpets for the home, "Corique" and "Splendante," offered in two shades each of green, gray and beige, with all the nylon qualities of color, durability, and eye appeal.

Fiberglas Draperies

The Fiberglas draperies of Owens-Corning Fiberglas Corporation, available to date for commercial use only, are approaching availability for the home. A new process for fabrics woven of Fiberglas yarns, called "Coronizing," will soon make available a marquisette curtain that is non-combustible, mildew- and rot-proof, shrink- and stretch-proof, and otherwise exciting to the homemaker.

Another innovation soon due in home decor through use of this material is a "vertical venetian blind," composed of free strips of Fiberglas and available in bright colors.

Controlled Rayon Yarns

Rayon, in its newest application in home furnishings, has been developed in Du Pont's "Thick and Thin" yarn to combine with other types of yarn to produce unusual irregularities of surface and interesting highlights. As woven — with cotton — into an antique satin by Burlington Mills for draperies, slip-covers and some types of upholstery it comes in such modern shades as flame, lemon yellow, coral and olive; in traditional colors it includes gold, rose, turquoise and wine. Cohn-Hall-Marx has woven taffetas, twills and damasks as well, with other varieties of monotone and two-color effects, bringing out the qualities of the colors through the "controlled irregularities" of the yarn.

Vinyl Resin Fabrics Coming Fast

Another modern material which will affect the color picture insofar as home decor is concerned is the growing volume of vinyl resin fabrics, of which 91 million pounds went into such consumer items as textiles last year. The vinyl resins are particularly important in the color picture because of the quality of color obtained, and because of the recent improvement of vinyl resin products in withstanding light without fading.

In the upholstery field increasing popularity is foreseen for coated fabrics. While the interest in these to date has largely centered in transportation items, new printing processes on unsupported plastic sheetings will bring many colorful patterns to the furniture and decorating trades. And only the ingenuity of the weavers limits the color and design which may be applied to the washable coated yarn fabrics.

It is not alone the new fabrics which emphasize the importance of new materials in the home, but the home-construction materials which offer more scope for the fabrics industry.

The home of tomorrow — despite all the obstacles raised by obsolete building codes and obstinate labor-union interference — bids fair to be a factory-built affair, a "machine for living." And every indication shows that the successful prefabricated home will be one based on new materials and new methods.

One of the most advanced techniques in home manufacture is based on the use of interior and exterior panels of baked porcelain enamel on steel. Essentially, it is a modification of the construction familiar in refrigerators, stoves, etc.

New Challenge for Fabric Industry

Homes of this type, notably the Lustron home which is scheduled for an unbelievable total of 45,000 units next year, present new problems to the fabrics industry.

Dull grayed colors will remove much of the gloss from the

COLOR BAROMETER: The relation of color to mood, in planning the decorative scheme for a home, is shown in this "Color Barometer."

material. But a greater use of fabrics than we have known in the recent past will be called upon for modification of the interior effects. More extensive use of wall hangings will be one solution. Because the interior panels present the homemaker with a permanent room color plan, without the opportunity for periodic change offered by painted or wallpapered walls, the housewife will re-do rooms by making changes in draperies, hangings, and upholstery.

A survey my firm is currently conducting on behalf of this manufacturer, to determine the preferences among American housewives for colors indoors and outside, will logically be followed by a determination of the fabrics color preferences of the housewives, to be used with the wall colors.

It is a fortuitous coincidence, with the development of homes of this type, that interest in tapestries was revived by the display in the United States last year of French tapestries, historic and new.

Another type of prefabricated house, not yet on the market, contemplates the use of canvas-lined walls, similar to those of today's luxury airliners. With such a home, furnishings will be developed in colors and materials that are best set off against a fabric-textured background.

Treatment of Floors

Tomorrow's home will offer, not only a difference in wall treatment, but in floors. Wooden flooring has been replaced in lower-budget post-war homes by over-all asphalt tile, not only in prefabricated dwellings but in such mass-produced projects as the extensive Levitt homes on Long Island.

Floors of this type, and also of vinyl plastic tiles and glass blocks, which are also entering the flooring picture, have expanded the scope of their general use from commercial institutions to various rooms of custom-built homes, as well as of the prefabricated and project-type house.

Their bright colors will effect a noticeable alteration in the selection of carpet and drapery colors for homes.

Wooden flooring, with its neutral color, is generally disregarded in making the selection of colors for rugs. However, with the modern style tendency to employ small rugs rather than a single overall carpet, the decorator will take into consideration the basic color of a composition flooring material. Because the flooring color does attract notice, the homemaker will want floor coverings whose colors are harmonious with the basic flooring.

(*continued on next page*)

With the advent of the many new materials which we have touched upon, and many more not here mentioned, we have more freedom in selecting home colors than any generation that has come before.

With such freedom, who will dominate the picture in determining the colors for our homes? The fabrics industry, enjoying greater power to produce interesting new variants of home furnishings colors? The decorator, whose freedom of choice approaches that of the fashion stylist? Or the homemaker herself, avid to learn and to give vent to her own color taste under the impetus of the increasingly popular women's service periodicals?

Conforming to Personality

It is my guess that we will find an increasing emphasis, in selecting colors for the home, on the hues suited to the individual, rather than on a mode which represents merely a style trend.

Many decorators today are placing emphasis on colors — and weaves — to express the personality of the individual.

It may well be that an appreciation of this fact was responsible for the difficulties experienced in putting across the Basic Home Furnishings color plan, sponsored by the Carpet Institute and taken up with great fanfare by other factors in the furnishings industry. The nine original colors, and six additional colors, were attractive and harmonious and of broad scope. But perhaps the entire plan was too schematic.

One basic factor was left out in the Basic Home Furnishings plan: the individuals whose separate preferences total up to the taste of the buying public.

In our very first issue, AMERICAN FABRICS presented the case for consultation of the American public in developing the semi-annual apparel promotion colors, and for coordination of colors among the apparel trade and the accessories industry. In the third issue of the magazine, the case history of an apparel fabrics house was presented, with the results of such a survey. A thorough-going coordination is still awaited in the fashion trades.

In the home furnishings industry, coordination has been attempted — although with 8,000 manufacturers of furniture it has been impossible to achieve uniformity or widespread adherence. But consultation has not yet been attempted. We do not know what colors women want in their interiors. It is indeed time to ascertain the facts.

Fortunately, as the result of a current survey, we will have some inkling on women's preferences. As this issue of AMERICAN FABRICS goes to press, consumer preferences on interior wall colors and other features are being determined.

Various factors will influence color selections of the homemaker. Some will, inevitably, pick colors to meet current trends;

Some will suit personal preference;

Some will seek psychological expression through color;

Some will buy for durability;

Some will seek combinations for multi-purpose rooms;

Some will use color to change size or shape of rooms;

Some will match colors to the woodwork of the furniture;

Some will apply color to the lighting requirements;

And, if the word of a group of Cornell home economists is to be believed, many women will employ colors in a room to match the various hues in a favorite painting.

Decor Keyed to a Painting

The Cornell group point out that a woman who chooses color schemes from a favored painting is well assured that the colors in her room will be in harmony, and that the room will attain unity through the combination of room colors in the colors of the painting. It is true that a definite sense of unity is obtained by uniting in one feature of room decor the colors seen elsewhere in the room; we had considerable success in obtaining such effects in the lounge of Pan American World Airways' new Stratocruiser, with the lower-deck draperies combining in a V-striped pattern all the colors of upholstery and carpeting.

I wondered, however, how successfully the average homemaker could duplicate in the specific items of upholstered furniture, draperies and floor covering the exact tones of the colors in a painting. A slight variation in any one color could throw the whole scheme off.

One means of assuring color harmony involves the use of variations on a single hue, for such rooms as kitchen or bathroom.

The vogue for selecting home colors to match the daylight exposure of the room, seeking to neutralize the effects of greater or lesser sunlight, has followed this rule of thumb:

For northern exposure — warm buffs, varied reds, bright greens not dark or cold, and yellows that are not pale;

For eastern exposure — the same, plus warm grays;

For southern exposure — ivory or cream; cold and grayish greens, light grays especially in combination with deep blues, soft brown or gold;

For western exposure — subdued color schemes in any shades.

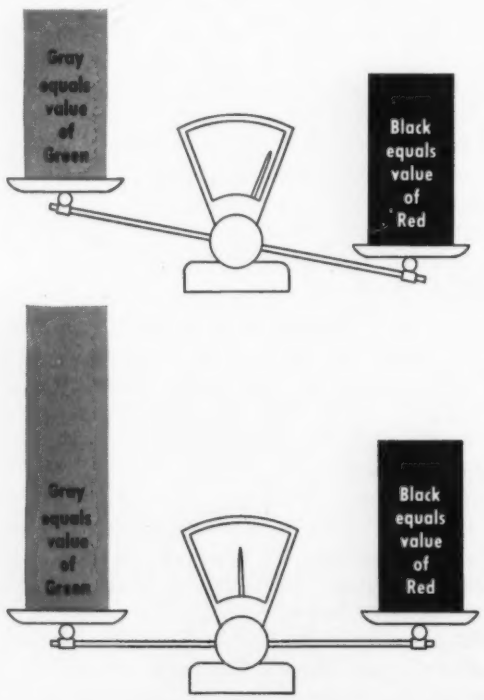
Color, according to this dictum, would be of softer tones when the amount of daylight obtained in the room is greater.

I believe the vogue for this approach is passing.

"How much of our entertaining at home is done in daylight hours?"

More practical, I believe, is the correlation of room colors with the artificial illuminant. Some colors are best enhanced by the strength of yellows and reds in incandescent lighting. Others are best brought out by the blue and green strength of fluorescents.

The development this year of pinkish-tinted fluorescent lamps,



COLOR STRENGTH AND AREA: The two illustrations of colors on a balance scale indicate that while color has no weight, it does create an effect similar to weight through qualities of purity or strength. The colors shown are of equal value (value referring to lightness or darkness in a scale from black to white). But the Red has twice the chroma strength or purity of the green; therefore, where equal areas of these two colors are used, the balance is weighted heavily on the side of the brighter, purer red. When correct proportion of the two colors is employed, visual balance is obtained.

with effects on color similar to the results produced by incandescent lamps, may mean a greater flexibility in combining fluorescent fixtures with home decor colors.

The chart on this page was worked out with the aid of a specially designed "light-box," in which different types of lighting reveal their effect on colors. We have found this fixture invaluable in relating fabrics colors to the illuminants.

The effect of several different types of fluorescent lamps, and of an incandescent bulb, on a variety of colors currently favored in home styling, are shown in the table.

Also indicated on the chart is the light reflection efficiency of these colors. The percentages are based on a quotation of 100 percent for magnesium oxide, the whitest — and most light-reflectant — substance available. Note that the percentages are given as approximations, for textures affect reflectivity.

Another approach to selecting home colors, in which the question of light reflectivity occurs, lies in determining upholstery colors on the basis of furniture wood.

Some homemakers or decorators will prefer to use upholstery keyed to the colors of the woodwork, others to counteract the effect. The following will be applicable, used in relation to the chart on color reflectivity:

Wood	*Light Reflectivity*
Curly Maple	52%
Maple	42%
Quartered Oak	33%
English Oak	17%
Walnut	16%
Mahogany	12%

These figures, of course, vary with the finish applied to the wood.

Another rule-of-thumb on light reflectivity of home colors — today observed often in the breach — recommends that ceiling colors have a reflection efficiency of 70 per cent, wall colors of 50 per cent, flooring of 10 per cent. This follows a balance of values based on Nature's balance of values — skies of light values approaching white, horizon of middle value, and foreground in the deepest colors, under most conditions.

A consideration of importance to many modern homemakers is the use of color to change the size and/or shape of a room; in the hands of an expert color can perform feats of wonder. For example, yellow in the end walls of a long narrow room will make the room seem slightly shorter. Properly selected receding colors (those which contain blue or green) on the long walls will make them seem further apart.

Light colors make rooms appear more spacious, and low ceiling appear higher. A light yellow, even though an advancing color — reds, oranges and yellows being the colors whose optical effect is described as "advancing" — make a room appear larger. Certain receding blues and greens can make a room appear smaller, when used throughout. But it is seen that the rules do not always work satisfactorily.

There is no substitute for experience and training.

The power of any given color is of greater importance with regard to its ability to enlarge or decrease the apparent size of a room than whether it an advancing or receding color. Consequently, we can treat the end walls of a long narrow room in a light yellow or cream, and the side walls in light turquoise, without altering perceptibly the proportions of the room. In this same room, the use of dark green on the side walls and the same light yellow for the end walls will shorten the room, because the greater contrast makes the observer more aware of the advancing effect of the yellow.

By lightening or darkening the color, its ability to influence the observer into seeing the room in altered proportions is correspondingly lessened. The difference between an advancing color and a receding color, in its psychological effect on the impression of distance created, is estimated at one foot in twenty.

FLUORESCENT 4500

	Daylight	*White*	*White*	*Soft White*	*Warm Tint*	*Incandescent*	*Light Reflective Efficiency*
MAROON	dull	dull	dull	dull	fair	good	30%
RED	fair	dull	dull	fair	good	good	15%
PINK	fair	fair	fair	fair	good	good	70%
RUST	dull	fair	fair	fair	fair	good	40%
ORANGE	dull	dull	fair	fair	fair	good	50%
BROWN	dull	fair	good	good	fair	good	15%
TAN	dull	fair	good	good	fair	good	60%
GOLDEN YELLOW	dull	fair	fair	fair	good	good	60%
YELLOW	dull	fair	good	good	dull	fair	75%
OLIVE	good	fair	fair	fair	brown	brown	40%
CHARTREUSE	good	good	good	good	yellowed	yellowed	70%
DK. GREEN	good	good	good	fair	dull	dull	20%
LT. GREEN	good	good	good	fair	dull	dull	75%
PEACOCK BLUE	good	good	dull	dull	dull	dull	8%
TURQUOISE	good	fair	dull	dull	dull	dull	40%
ROYAL BLUE	good	fair	dull	dull	dull	dull	40%
LT. BLUE	good	fair	dull	dull	dull	dull	55%
PURPLE	good	fair	dull	dull	good	dull	10%
LAVENDER	good	good	dull	dull	good	dull	60%
MAGENTA	good	good	fair	dull	good	dull	40%
GREY	good	good	fair	soft	soft	dull	55%

NOTE: These are approximate figures subject to variation depending on the texture of upholstery fabric weave, the type of illuminant, the particular variation of color used, etc.

Copyright Howard Ketcham, Sept. 1948

EFFECTS OF LIGHTING ON DECORATION COLORS: Popular decorating colors have been tested in a light-box designed by Howard Ketcham to permit a comparison of the effects on fabric colors of different types of fluorescent lamps and of incandescent bulbs. It will be noted that the new "Warm Tint" fluorescent lamp more closely approaches the effect of incandescent light on home furnishings colors than do any of the familiar fluorescent tubes. These tests have been used by Mr. Ketcham in selecting fabric colors and various problems of interior styling. Light reflective efficiency, indicated in the right-hand column, offers a comparison of each color with the reflectivity of magnesium oxide, the whitest substance known.

The increased durability and sun-fastness provided by the fabrics industry for the home will increase the homemaker's freedom. These qualities will also make the selection of color a more important problem.

Size Changes Effect

The right colors in a room to suit the personality and taste can contribute a helpful frame for the hostess. Color can monopolize attention and reactions, if not controlled, and it is up to the colorist to see that it is managed according to the personal preferences and needs of the homemaker. Large areas of color, once applied to wall and ceiling, always look stronger and more dominating than they do in the form of minute color-card samples. When in doubt, lighter and duller variations should be chosen among two alternatives.

From the psychological standpoint, many of the colors most suited to the individual for apparel application — as described in an earlier issue of AMERICAN FABRICS — will create great satisfaction in her home as well. These correct background colors for personality and complexion types of men and women are helpful in planning interior color schemes.

To do justice to the homemaker, it is necessary to understand her — as an individual. The starting point in selecting the colors may well be the Socratic dictum: "Know thyself."

* * *

With the ability of the industry to produce a satisfying variety of durable and attractive colors, and an understanding of the essential rules of color application, there is no better way to set about sweetening the home with color then to help the homemaker to understand her own requirements and to make available the colors she really wants — HOWARD KETCHAM.

From the Note-book of

Ralph Waldo Emerson . . . . . .

Commerce is a game of skill, which every man can not play, which few men can play well. The right merchant is the one who has the just average of faculties we call commonsense; a man of strong affinity for facts, who makes up his decision on what he has seen. He is thoroughly persuaded of the truths of arithmetic. There is always a reason, in the man, for his good or bad fortune; and so, in making money. Men talk as if there were some magic about this, and believe in magic, in all parts of life. He knows that all goes on the old road, pound for pound, cent for cent — for every effect a perfect cause — and that good luck is another name for tenacity of purpose.

* * *

There are asking eyes, asserting eyes, prowling eyes; and eyes full of fate — some of good, and some of sinister omen. The alleged power to charm down insanity, or ferocity in beasts, is a power behind the eye. It must be a victory achieved in the will, before it can be signified in the eye. 'T is very certain that each man carries in his eye the exact indication of his rank in the immense scale of men, and we are always learning to read it. A complete man should need no auxiliaries to his personal presence. Whoever looked on him would consent to his will, being certified that his aims were generous and universal. The reason why men do not obey us, is because they see the mud at the bottom of our eye.

* * *

Our friendships hurry to short and poor conclusions, because we have made them a texture of wine and dreams, instead of the tough fiber of the human heart. The laws of friendship are great, austere, and eternal, of one web with the laws of nature and of morals. But we have aimed at a swift and petty benefit, to such a sudden sweetness. We snatch at the slowest fruit in the whole garden of God, which many summers and many winters must ripen. We seek our friend not sacredly, but with an adulterate passion which would appropriate him to ourselves.

I do not wish to treat friendships daintily, but with roughest courage. When they are real, they are not glass threads or frost-work, but the solidest thing we know.

The end of friendship is a commerce the most strict and homely that can be joined; more strict than any of which we have experienced. It is for aid and comfort through all the relations and passages of life and death. It is fit for serene days, and graceful gifts, and country rambles, but also for rough roads and hard fare, shipwreck, poverty and persecution. It keeps company with the sallies of the wit and the trances of religion. We are to dignify to each other the daily needs and offices of man's life, and embellish it by courage, wisdom and unity. It should never fall into something usual and settled, but should be alert and inventive, and add rhyme and reason to what was drudgery.

* * *

The power of a man increases steadily by continuance in one direction. He becomes acquainted with the resistances and with his own tools; increases his skill and strength and learns the favorable moments and favorable accidents. He is his own apprentice, and more time gives a great addition of power, just as a falling body acquires momentum with every foot of the fall.

* * *

The changes which break up at short intervals the prosperity of men are advertisements of a nature whose law is growth. Evermore it is the order of nature to grow, and every soul is by this intrinsic necessity quitting its whole system of things, its friends, and home, and laws, and faith, as the shell-fish crawls out of its beautiful but stony case, because it no longer admits of its growth, and slowly forms a new house.

And yet the compensations of calamity are made apparent to the understanding also after long intervals of time. A fever, a mutilation, a cruel disappointment, a loss of wealth, the loss of friends, seems at the moment unpaid loss, and unpayable. But the sure years reveal the deep remedial force that underlies all facts. The death of a dear friend, wife, brother, lover, which seemed nothing but privation, somewhat later assumes the aspect of a guide or genius; for it commonly operates revolutions in our way of life, terminates an epoch of infancy or of youth which was waiting to be closed, breaks up a wonted occupation, or a household, or style of living, and allows the formation of new ones more friendly to the growth of character. It permits or constrains the formation of new acquaintances, and the reception of new influences that prove of the first importance to the next years; and the man or woman who would have remained a sunny garden flower, with no room for its roots and too much sunshine for its head, by the falling of walls and the neglect of its gardener, is made the banyan of the forest, yielding shade and fruit to wide neighborhoods of men.

letters to the editor

TO THE EDITORS:

American potters have suddenly been convinced it is no longer necessary to put a rose on a plate for it to sell. So I am hunting for some new artists to create dinnerware patterns for my client, Commercial Decal, Inc. As you know, that firm makes about 90% of the lithographic decorations used in American potteries.

Don't you think that some of the designers of textiles and wallpapers would be interested in ceramic decoration? If so, have you any suggestions as to which designers I might contact? I'd appreciate it awfully if you'd jot down some names and addresses and drop them in the mail for me.

Sincerely,
Catharine Oglesby
New York 1, N. Y.

* * *

TO THE EDITORS:

Thank you so much for the beautiful, beautiful copy of American Fabrics. I always enjoy each issue and of course always learn from it.

Dorothy DeGroat
Macy's, New York

* * *

TO THE EDITORS:

The following letter which I received from South America on October 15th, may be of interest to your readers . . .

* * *

DEAR MR. GAUGLER:

I hope you will excuse me if I bother you for a little matter of no great importance but which will cause me much pleasure if you could lend me your kind help.

Last year I subscribed to "American Fabrics" and I have been receiving all the numbers in good order, finding them so good that I have decided to keep them carefully so as to have the whole collection.

Unfortunately I very unwisely lent to a friend of mine the numbers 1, 2 and 3 of year 1947 and the damn fool went and lost them. I wrote to "American Fabrics," at the Empire State Building, and they were very helpful since they managed to send me number 2 and 3 but were unable to provide me with No. 1 which leaves my set uncomplete. I therefore write to you to ask you if you think you could manage to get me this No. 1 (Year 1947) from some of your friends who would not care to keep it. Please do not bother yourself too much with this matter but if by some happy circumstances you would come across some friend or acquaintance who would be willing to part with this magazine, I would very much appreciate your help, I of course, want you to let me know whatever the cost is so that I can reimburse you of same.

Andres E. T. Sperry
Buenos Aires

* * *

TO THE EDITORS:

In American Fabrics, Number Three, for 1947 you published a section called American Fabrics Condensed Dictionary of Textile Terms and indicated that separate reprints for this dictionary could be obtained for $1.00. Enclosed is Bank of America Cashier's Check, number 4112531 to pay for two copies of this work. May we say that we find your publication very helpful to us in the preparatory work that we do for motion pictures.

Carl Milliken, Jr.
Head, Research Department
Warner Bros. Pictures, Calif.

* * *

TO THE EDITORS:

Maybe the fabric industry is shoving away talent by the carloads, but I never heard of an industry that had enough top flight men. There is always a crowd at the middle and the bottom with plenty of room at the top. You know this and you say, O.K., so what? That room is costing M-O-N-E-Y. Room means *room for something needed.* And something needed means something needed to be done. In short, like every other organized activity, the textile business needs things to be done and people who can see them and do them.

I want them there before I get in and after. I can't be a success alone. Neither can you. American Fabrics, represent the industry! Make a featured bid for young artistic and scientific talent and executive ability!

Make *American Fabrics* a magazine that extends a helping hand to young men and women seriously contemplating entering the textile field (the want of that "helping" hand is the one reason for the universities' failure to subscribe to your magazine) and to the fledges already in it. Then I will read the magazine with even more interest.

George M. Vogel
South Orange, N. J.

* * *

TO THE EDITORS:

As a supplement to my article "The Factor: Godfather of Textiles" I believe the following glossary of terms will be useful.

Damgar — Sumerian word for agent or factor, ancient Mesopotamia.

Egdocheis — Greek word for factor-agent: literally, "he who accepts out of" or "he who receives a commission."

Foreign Factors — Agents or factors acting as buyers, sellers or both, in behalf of non-resident principals; specifically herein, the medieval London factors representing foreign merchants or merchant bankers.

"Guarantee" of Accounts or Credits — Phrases loosely applied in connection with transactions wherein the factor buys accounts receivable without recourse upon the seller thereof, and warrants the solvency of the debtors who owe such accounts.

Recourse — Purchase of accounts receivable (open accounts) by a factor may be with or without recourse against the former owner of the accounts in case the debtor fails to pay by reason of insolvency. If the factor buys the accounts *without recourse* he is said to "guarantee" them. In that case he must, in order to protect his lien, notify the debtor that he owns the accounts. Some factoring clients (borrowers), generally non-textile, object to notification. They therefore prefer that the transaction be *with recourse* upon them and without notification or "guarantee."

Sedentary Merchant — A merchant with fixed place of business.

Shamgallu — Accadian word for factor, ancient Babylonia.

Wool Route—Customary land-and-water route between England and Italy as followed by shipments of wool and woolen cloth during the 12th to 15th centuries.

Wm. Hurd Hillyer,
New York, N. Y.

* * *

TO THE EDITORS:

In making a trip across the country, I happened to be in the Los Angeles Public Library and noticed a copy of American Fabrics — and believe it or not, there were just six pages left! The rest had been torn out! I thought you would be interested in this.

D. R. Kessler, N. Y.

Editors' Note: Thanks for your note. We have rushed a new copy to the Los Angeles Public Library.

TO THE EDITORS:

The Celanese Corp. of America several years ago sent to Alaska a designer who used Eskimo and Indian Art as a basis for a number of designs which they produced in a variety of textiles. It was my good fortune to assist this designer in finding sources of designs. It has been a great pleasure to see some of these designs reproduced in blouses by "Vogue" and as piece goods. During my fifteen years in Alaska I have been interested in collecting and photographing Eskimo, Indian and Aleut designs and have a rather extensive collection of such photographs. I have lately become very much interested in the application of these designs in linoleum and wood blocks and the application of designs to textiles. I would appreciate your suggestions as to where such textiles could be marketed or where an extensive market could be found for hand-blocked textiles using these native designs.

George A. Dale,
Juneau, Alaska.

Editor's Note: In the Number 7 issue of American Fabrics, the fashion fabric portfolio, we showed a four-ounce printed worsted and erroneously said it was guaranteed by the American Institute of Laundry. This fabric is guaranteed washable by the Lux Laboratory.

TO THE EDITORS:

I am a student at the Royal Technical College of Talford, Lanes, in the final year, and expect to be in the U.S.A. for about three months, starting June, 1949. May I apply through your publication for a paid or unpaid position in an American cotton or rayon mill for training purposes? Your magazine, of which, through the proverbial American uncle, I am a subscriber, has made the rounds of my class and is always fully appreciated by all.

V. B. Plopul,
Manchester, England.

* * *

ANALYSIS OF THE FIBERS OF FABRICS EXHIBITED IN "AMERICAN TEXTILES, '48"
— *See page 77.*

Cotton — 52 . . . Rayon — 51 . . . Wool — 47 . . . Silk — 25 . . . Nylon — 10 . . . Saran — 6 . . . Fiberglas — 3 . . . Linen — 2 . . . Velon — 1 . . . Vinyon — 1 . . . Ramie — 1.

NOTICE TO READERS

The following are available to our readers. When reserving books, it will be helpful if payment is enclosed with each order.

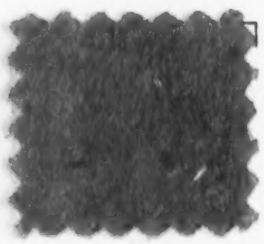
1. Condensed Dictionary of Textile Terms, now in its fourth printing. Price, $1 per copy.
2. Dictionary of Wool and Worsted Terms, 80 pages, size 11x14½, profusely illustrated. Price, $3.
3. Chinese Flower and Fruit Prints — bound between hard covers, containing 12 color prints individually mounted. Price, $4.50.
4. Persian Art Inspiration, special gravure printed and swatched, 40 page portfolio of Persian Art and Design Influences. Price, $2.

Address:

American Fabrics, Order Dept.
350 Fifth Avenue
New York 1, N. Y.

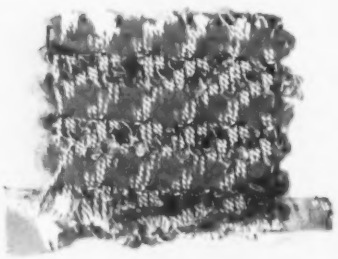
VERSATILITY... AN AMERICAN VIRTUE

IT IS a source of common wonder that a maker of steel covers so wide a domain that in one plant he produces fine spun, almost invisible watch springs while in another building he molds a single, multi-inch thick sheet to serve as the keel for a new battleship. Yet, what is so worthy of awe in the steel company's versatility when within our own textile industry we have just as impressive a performance? Take, for example, the case of Cohama. One fashion manufacturer knows Cohama for its filmy silk chiffon; another for its fine tissue worsteds; still another for its original rayon fabrics. Typically American in its versatility, Cohama uses practically all known fibers in all major fields — men's and women's apparel, home decoration, etc., — in all known ways to serve all known needs in textiledom. For an interesting and impressive array of fabrics produced by Cohama for multitudinous end-products, spend a few moments with the demonstration proofs on this page.



WOOLS
Guanaquito and wool blends

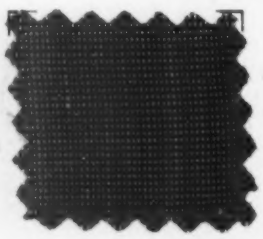
SILKS
Crisp pure-dye feather silk prints



DECORATIVES
For drapery and upholstery

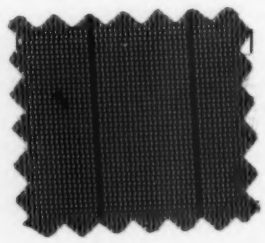
A few of the multiple varieties of fabrics produced by Cohn-Hall-Marx, a single American textile firm.

COTTONS
Washable birdseye pique by Ameritex

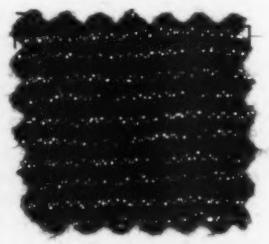


RAYON BLENDS
Frostpoint — a pioneer rayon suiting

NYLONS
French-inspired couturier textures



TRICOTS
Sharkskin-type acetate suitings



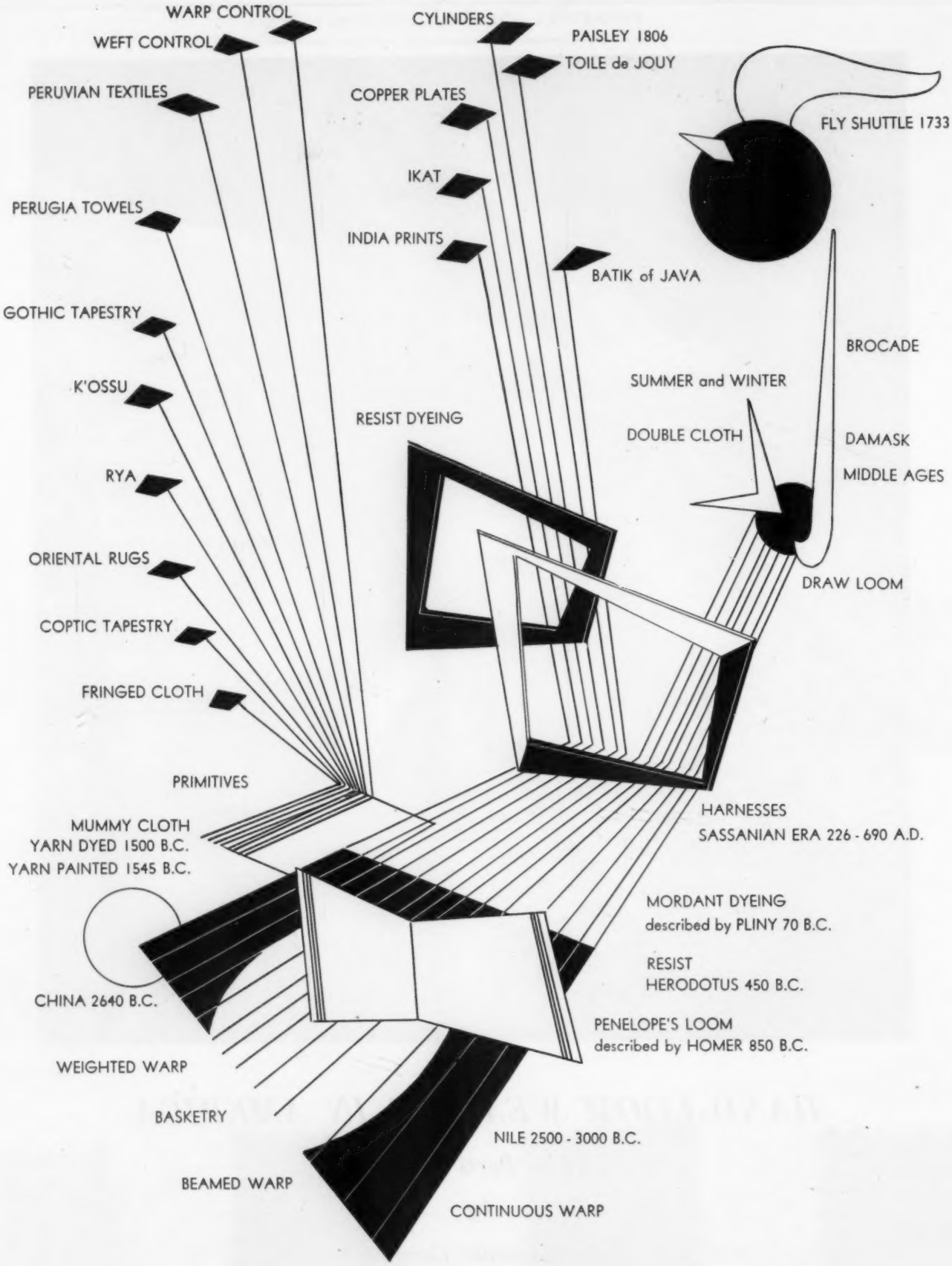
METALLICS
Rabbit-hair and wool shot with aluminum

HAND-LOOM WEAVING IN AMERICA

In Three Parts . . . Part I

by

Annafreddie Carstens



CHRONOLOGY OF WEAVING

The above drawing, which briefly tells the development of weaving through the ages, was executed by Hugh Botts, the graphic artist.

MAY I dedicate this review of AMERICAN HAND-LOOM WEAVING to those pioneer weavers who have been the main factor in the survival of the weavers craft in our country. They are our source of traditional weaving technique and history today. And, may I thank those hundreds of weavers who have made this article possible by the lending of their valuable hand-woven articles, pictures of which will be reproduced in Parts II and III of this article.

It would be impossible to single out any one weaver as giving the greatest assistance, for this is truly a concerted effort of all contributors. The great difficulty has been in selecting the types of weaving that are representative, as well as inspiring. I should like to express my deep appreciation to American weavers for the many helpful suggestions I have received, and to the editors of American Fabrics Magazine for this opportunity to present this story of American Hand-Loom Weaving. — Annafreddie Carstens, Educational Weaving Consultant

PART I — WEAVES OF HAND-LOOM FABRICS

In which Annafreddie Carstens and Dr. George Linton give a brief and simple description of the basic weave, from which the various combinations are derived . . . complete with explanatory charts and graphs.

THE QUALITY and the appearance of any handwoven cloth very much depends upon the individual weaver. It is the integration and balance of fiber yarn, color, and design that distinguishes any textile, whether it is an ancient piece or a modern 20th Century fabric. The technical possibilities of hand-loom weaving are comparatively limited. It is for this reason the weaver should know thoroughly the mechanical construction and possibilities of his loom. He should be able to construct new drafts, as well as adapt those of the master weavers of the past to present day requirements.

Necessity to Know Basic Fibers

He should know qualities, and relationships of the various fibers: flax and other members of the "bast" family, wool, silk, cotton and man-made types. The weaver should understand the principles of the three basic weaves, Plain, Twill, and Satin, and their more common derivatives. It is only when the weaver has learned these principles of construction that he will be stimulated to create new color schemes, new plays of texture, and original designs, and ingeniously handle his warp and weft to produce materials of beauty and quality. These basic facts are all important and should not be lightly passed by, if American Hand-Loom Weaving is to build a heritage, comparable with that of the Old World countries.

The classification of the weaves of hand-loom fabrics, most frequently used by the weavers today, is based entirely upon the weave, and not upon the material, design or color of the fabric. No explanation of setting up the loom or fundamental terminology will be given. Other articles have already covered this. One master weaver divides hand-loom weaving into two classes: Pattern weave in which the pattern is the enrichment of the fabric by the threading of the heddles in the loom, and Plain weave in which the interest is in color, texture, or applied design to the web or fabric. The basic foundation of most pattern and design weaves is a textile of approximately even count in warp and weft. The foundation weave of any fabric is found in the bulk of the piece. If there are equal areas of different weaves, the main weave to be considered is the more elaborate one.

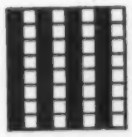
The Plain Weave Is the Oldest

The simplest of all weaves is the Plain Cloth weave, also known as the Plain weave or the Tabby weave. It has been universally used since spun threads were first woven. No doubt this developed from the primitive interlacing of rushes, cane and similar fibers. The Cloth weave in different materials is found among all ancient textiles. Probably the oldest are the textile fragments from the Swiss lake dwellers and the Egyptian Linen cloths. Also the examples of Plain Cloth weave in silk of the Chinese during the Han Dynasty. Interest in these examples are archeological rather than artistic. The warp and weft threads are regularly interwoven on the principle of "over one and under one."

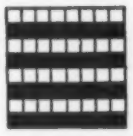
THE THREE BASIC WEAVES IN WEAVE FORMATION:

Plain, Twill and Satin Weaves: There are three basic weaves from which may be stated, all other weave constructions are derived, directly or indirectly. These weaves which form the foundation for other woven designs or patterns are plain, twill and satin.

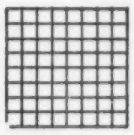
All woven goods have two systems of yarn or thread that weave or interlace at right angles.



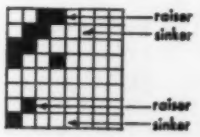
Threads that run vertically or lengthwise in a material are called warp, ends, or warp ends.



Threads that run crosswise or horizontally in a material are called filling, picks, or filling picks.



The manner in which threads actually interlace is called weaving. Woven cloth designs are plotted on design paper. This squared paper is arranged so that the vertical or up-and-down lines represent the warp; the horizontal lines, the filling.



A raiser is a painted block on the design paper. It indicates that the warp end is raised over the filling pick at the point of interlacing.

A sinker is an unpainted block and signifies that the filling pick is over the warp end at the point of interlacing. In other words, the warp end is under the filling pick at that point of interlacing.

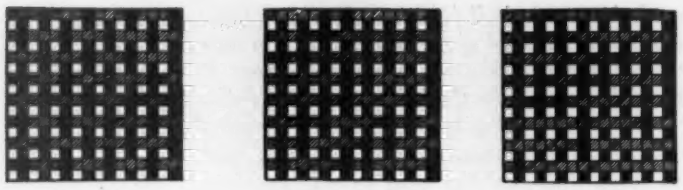
In plotting or laying out ordinary weave constructions the warp is painted on the design paper, the filling is not.

The term, repeat, is used to designate the size of the weave and the number of threads that the weave may contain in both the warp and the

(please turn page)

filling direction. Weaves may be repeated on paper any number of times within reason.

INTERLACING ARRANGEMENT OF PLAIN, TWILL, AND SATIN WEAVES (Black lines — Warp; Shaded lines — Filling):



PLAIN WEAVE

$\frac{1}{1}$ plain weave
4 repeats high,
4 repeats wide.

TWILL WEAVE

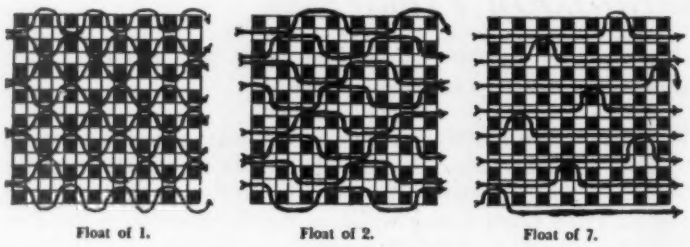
$\frac{2}{2}$ right hand twill
2 repeats high,
2 repeats wide

SATIN WEAVE

8 end, shaft or harness satin weave, base or counter of 3; filling float of 7.
1 repeat high, 1 repeat wide.

Cross-Section of Plain, Twill, and Satin Weaves:

The warp, shown by the wavy lines, interlaces over and under the filling picks which are shown by the black dots.



Float of 1. Float of 2. Float of 7.

Plain Weave: There is only one plain weave and it repeats on two warp ends and two filling picks. The construction is one raiser and one sinker on each thread. The second thread weaves the opposite of the first. The effect is a checkerboard. When the first thread is "up," the second thread is "down." The plain weave is written $\frac{1}{1}$ and is read as "one-up, one-down."

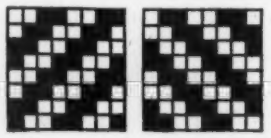
This weave is 4 repeats high, 4 repeats wide.

one repeat

About eighty percent of all woven fabric is made with plain weave which affords the tightest possible interlacing between the warp and the filling yarns.

Twill Weaves: There is no limit as to the number of twill weaves possible. The simplest and smallest twill that can be made is on three warp ends and three filling picks. The weave may be a two-up and one-down or a one-up and two-down, right-hand twill or left-hand twill.

Twill weaves produce diagonal lines on the face of the goods. In the great majority of cases the lines run to the right on the material. That is, they run from the lower left-hand corner of the goods to the upper right-hand corner of the material. Some few cloths made on this type of construction have a left-hand twill effect on the face of the fabric; from the upper left-hand corner of the material to the lower right-hand corner of the goods.



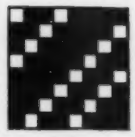
2-up, 2-down; right hand twill, 2 x 2.

2-up, 2-down; left hand twill, 2 x 2.

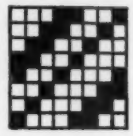
There is no set rule that specifies as to whether or not a cloth must have a right-hand twill or a left-hand twill construction. Custom, deep-rooted tradition, local circumstances, usage of the material, and the appearance are all basic factors that usually determine the weave direction. Some twill fabrics may be either right hand or left hand in the diagonal twill line effect. Drill and certain small twill-effect constructions may be right hand or left hand in twill line direction.

Effect: This term is used to sum up weaves as to appearance and effect noted on the actual cloth. There are three types of effect:

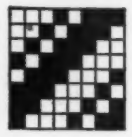
1. *Warp Effect*: When there is more warp than filling on face of cloth. Example — a $\frac{4\ \ 2}{1\ \ 1}$ weave, a total of 6 ends up and 2 ends down.



2. *Filling Effect:* When there is more filling on the face of the cloth. Example— a $\frac{1\ \ 2}{2\ \ 3}$ weave, a total of 3 ends up and 5 ends down.



3. *Even-Sided Effect:* When there is the same amount of warp and filling on the face of the goods. Example— a $\frac{3\ \ 1}{1\ \ 3}$ weave, a total of 4 ends up and 4 ends down.



These three terms apply to other types of weaves when designing for woven fabric — satins, steep twills, basket weaves, broken twills, herringbones, spot weaves, granites, etc.

Degree Twill Weaves: The usual common twill weaves are forty-five degrees in angle. For example, a 2-up and 2-down twill weave will show that one repeat requires the use of four ends and four picks. The rule is to "go-up" one pick for each successive warp end in a forty-five degree twill weave. To make the second repeat of the 2-up and 2-down twill, the following arrangement should be followed:

1. The 5th end and the 5th pick weave the same as the 1st end and the 1st pick, respectively.
2. The 6th end and the 6th pick weave the same as the 2nd end and the 2nd pick respectively.
3. The 7th end and the 7th pick weave the same as the 3rd end and the 3rd pick respectively.
4. The 8th end and the 8th pick weave the same as the 4th end and the 4th pick, respectively.

In a 45-degree twill, right hand effect, the raiser moves up one pick for each successive warp end. The diagonal line goes to the right.

In a 45-degree twill, left hand effect, the raiser moves down one pick for each successive warp end. The diagonal lines go to the left.

Sixty-Three-Degree Twill Weaves: In the right hand effect the raiser moves up two picks. In the left-hand effect the raiser moves down two picks.

Seventy-Degree-Twill Weaves: In the right-hand effect the raiser moves up three picks. In the left-hand effect the raiser moves down three picks.

Seventy-Five-Degree Twill Weaves: In the right-hand effect the raiser moves up four picks. In the left-hand effect the raiser moves down 4 picks.

Reclining Twill Weaves: Twill weaves in which the angle and the diagonal line are less than the usual forty-five degrees.

Twenty-Seven-Degree Twill: Hold over for two ends, then go to the next pick.

Twenty-Degree Twill: Hold over for three ends, then go to the next pick.

Fifteen-Degree Twill: Hold over for four ends and then go to the next pick.

SATIN WEAVES: These weaves constitute the third group of the basic weave constructions. The plain weave has no characteristic nor distinguishable diagonal or twill line. There is a more or less prominent diagonal line in right-hand and left-hand twill weaves and in broken twill weaves.

Satin weaves do not have a distinguishable twill line despite the fact that it is actually present in cloth made of these weaves. The naked eye, however, does not discern these lines on the face of the cloth. For this reason, one speaks of a satin weave as devoid of any characteristic twill line. The absence of the twill lines in a satin weave is brought about by the way in which the interlacing, of the threads is arranged. Because of this fact, practically the entire surface of the face of the goods is covered with either warp yarn or filling yarn depending on the weaves having a warp or filling construction. The fine diagonal lines do not show and to find them one must look carefully and closely at the material.

Regular satin weaves repeat on as low as five ends or threads. The following terms used with regard to satin constructions are synonymous:

1. Base or counter. 2. End, shaft or harness. 3. Satin, in silk, and sateen, in cotton, are the same when referring to the cloth construction.

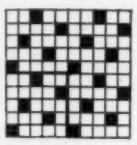
The order of interlacing in any regular satin weave may be found by the use of the base or the counter. This is determined by dividing the number of threads in the repeat into two parts so that they do not have a common divisor, and that the one part is not a multiple of the other. Therefore, an 8-end satin weave could be made with a base of 3 or 5 but not with one of 2 or 4 since the latter numbers divide evenly into 8.

A 9-end satin is possible with a base of 2, 4, or 5 but not with a counter of 3. Care must be used to figure the correct satin counters.

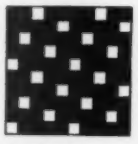
When weaves are painted on paper, the first warp end is made to interlace with the first filling pick in the lower left-hand corner of the weave. The designer then resorts to the use of the counter. This is added to the interlacing on the first pick and the number of the end that will interlace with the second pick is found. This method continues until the construction is completed. One pick at a time must be taken to determine the number of the warp end that is to interlace with each respective pick.

When completed, the weave will show that each and every warp end in the weave interlaces at some point with some individual filling pick. There can never be two interlacings at any point on any warp end or filling pick within the confines of the repeat of the ordinary satin weave.

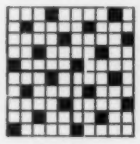
When any of the numbers used in counting go beyond the first or original repeat, they are placed on corresponding numbers on the interlacing within the original weave repeat.



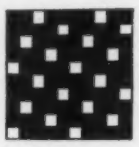
5-end satin, counter of 3, filling effect, 2 x 2



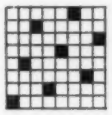
5-end satin, base of 3, warp effect, 2 x 2



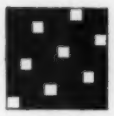
5-end satin, counter of 2, filling effect, 2 x 2



5-end satin, base of 2, warp effect, 2 x 2



8-shaft satin, counter of 3, filling effect, 1 x 1



8-harness satin, base of 3, warp effect, 1 x 1

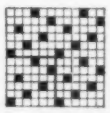
Satin weaves are used to make brocade, brocatelle, cape or cloak fabric, cotton-back sateen, coverings, curtain material, damask, dress silk, evening gowns, and wraps, fancies and novelties, furniture fabric, Jacquard fabrics of many types, runners, slipper satin, sport fabrics made of silk or synthetics, striping effect in some materials, table cloth and napkin material, tapestry, tie fabric, etc.

The word, satin, in constructions implies a silk or "man-made" cloth made with a satin weave; the term, sateen, implies a cotton material made with a satin weave.

Satin weave gives a more solid and glossier appearance on the face of the goods than any other type of weave. Hence, its great use in the above-mentioned materials. The types of yarn used have great effect on the brilliant effects noted in fabrics made with the satin weave. Satin weave cloths do not possess nearly the tensile strength of plain and twill woven cloths because of the manner of construction. The loose plan in interlacing and the length of the floats in the weave cause this condition. Plain woven cloths have more tensile strength than twill woven fabrics.

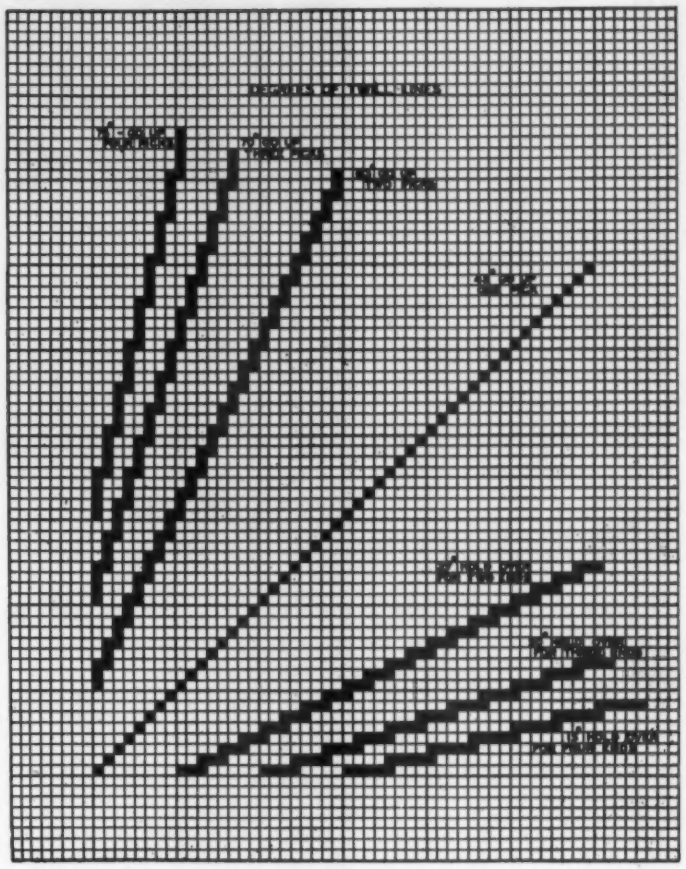
If one speaks of an eight-harness satin the implication is that there is one interlacing in every eight threads; that is a warp thread interlaces once in every eight picks and makes a float where the thread is not woven-in on the face or the back of the cloth as the case may be. The length of the float in ordinary satin weaves is one number less than the number of ends in the repeat of the pattern weave. Thus, an 8-end satin weave would have a float of seven.

The six-harness irregular satin weave, often used in satin constructions, has the following arrangement of the warp ends: 1, 3, 5, 2, 6, 4. The weave below is a filling effect, 2 repeats high by 2 repeats wide.



KATE VAN CLEVE'S PRIMER OF WEAVES

Basket — Over two or more threads and under two or more Warp and Weft same number. **Bound weaving** — On opposites. **Brocades** — Extra design threads in weft. **Bronson** — Lace, Spot, Rep. **Crackle** — 4 harness 3 up and 1 down. **Damask** — 5 or 8 harness. **Twill Damask** — 5 or 8 harness. **Double Weaving** — 5 or 8 harness. **Embroidery Weaves** — 1. French, 2. Italian, 3. Laid-in, 4. Mexican, 5. Russian, 6. Swedish. **Honeycomb or Waffle Effect. Laces** — Bronson (4 harness); Spanish (2 harness); Scandinavian (4 harness). **Looped** — Pile, uncut loop effect. **M's and O's** — Linen Weave. **Overshot** — (Colonial). **Primitive** — Simple Tapestry or Indian Weaving interlocking the colors and thread in joining. **Rep** — 1 heavy and 1 fine thread alternating in weft. **Summer and Winter** — 4 Harness, 2 block patterns and 1 block can be added for each extra harness — 6 harness will be a 4 block pattern. **Tabby** — Same as plain weave, 1 up and 1 down, checkerboard effect. **Tapestry** — No Tabby and Interlocking threads, knotted flat-Greek Soumak.



SUMMARY

Weaving is the interlacing of two lines of thread crossing at right angles. The long or lengthwise threads are called warp threads, the crosswise threads are called weft or woof or filling.

The three principles of weaving are: 1. Shedding or raising of warp threads as needed, 2. Picking or throwing across of filling threads. 3. Battening or driving up filling.

The fundamental weaves are: 1. Plain or tabby. 2. Twill. 3. Satin. The twills are (a) balanced or even or 2-2 (over 2 under 2 warp threads) making a diagonal or 45 degree angle from the left shoulder across the chest when worn, (b) unbalanced or uneven or 1-3 (over 1 under 3 or vice versa) forming either a warp twill or a filling twill, (c) broken twill or 4-harness satin. The satin weave forms a smooth lustrous surface. It requires five or more harnesses. In satin the warp is dominant, in sateen the weft or filling is dominant. On a 4-harness loom the broken twill is the nearest one can get to a satin weave.

In the weaving craft (1) texture, (2) structure, and (3) color are important. Texture is obtained by the materials used, the "setting" in the reed, and the battening. Structure is concerned with the kind of weave — the threading in the heddles and the order of treadling. Color in warp and filling produces variety, e.g., white warp and red filling make pink, blue warp and red filling make purple or violet, green and red of the same value appear gray at a distance. Cold, warm, analogous, contrasting, etc. color.

Design in weaving includes all three. Suitability of texture, pattern and color to purpose, spacing, repetition, movement or rhythm, relation of border to center in a runner, rug or place mat, all come under design.

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Above is a reproduction of one of the earliest known examples of woven cloth, a fragment of linen woven by the pre-historic Lake-dwellers of Switzerland and now in the British Museum, London.

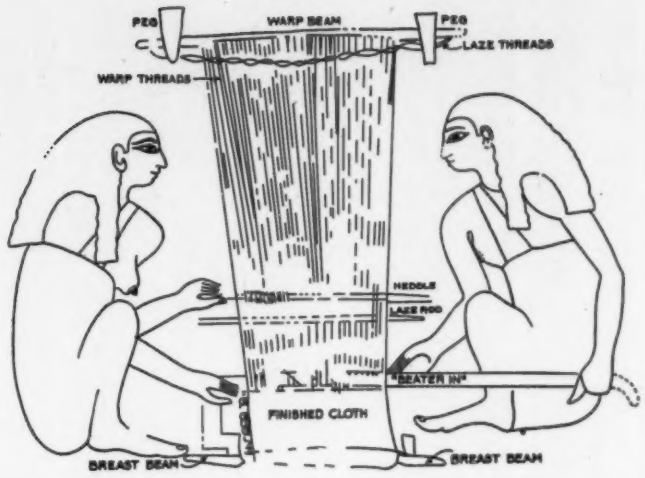
THIS story of fabrics takes us back to prehistoric times before man's history of man began. Civilization's pathway is marked with the evidence of man's painstaking efforts to attain perfection in spinning and weaving. A bit of cloth, whether it be woolen, linen, cotton, silk or rayon, is one of the most interesting evidences of man's stages in civilization.

Every activity of man has always been closely associated with the art of weaving, whether it be personal protection, living quarters, barter, government or politics. In fact weaving — the cornerstone upon which rests the basic industry of clothing — occupies a place of importance and usefulness second only to that of food and agriculture.

We shall reach this conclusion whether we take into consideration the number of persons engaged in the various branches of the art, the universal practice of weaving in ancient or modern times, or the necessity and value of the production of the weaver's craft to society in general.

It is of interest that more than one fourth of the working world is occupied either with weaving and its allied arts or distribution of the finished materials.

Hand-loom weaving always has been the means of calling forth a vast amount of invention and ingenuity of the artistic as well as the mechanical. Hand-loom weaving can contribute greatly to the nourishment and continual enrichment of the great modern textile manufacturing plants of America. It is the aspect of the subject viz.: — the development of this textile art from its earliest beginning in America — that this present review is intended to set forth.



WEAVING ON HORIZONTAL LOOM—from a wall-painting in the tomb of Khnumhotep at Beni Hasan. Dyn. XII (about 2000 B.C.)

Woman at left with one hand inserts heddle to separate warp for passage of shuttle bearing woof, while with the other hand she helps her companion push the woof to position with the beater-in.

THE SHUTTLE . . . CHOOSE THE RIGHT ONE FOR THE RIGHT HANDS AND MATERIALS

The weaver should choose his shuttles with great care, for they will affect the appearance of his material, as well as the rhythm and speed with which he works.

The shuttle should be of sufficient weight to enable it to draw with it the weft thread, and overcome the drag or strain caused by the unwinding of the weft. If it is too light the drag of the thread will draw it out of its course. Also, a too light or too heavy shuttle will tend to fly out of the warp. Test the way the shuttle sits on the taut warp when the shed is open. It should be able to glide easily and swiftly over the warp, without bouncing or weighing down.

The boat shuttle, with the embedded rollers which project slightly, is ideal for very fine wefts or those without very much tensile strength.

On the other hand, however, this type shuttle would be excellent for very heavy weft, where speed would add to the evenness of the unwinding of the bobbin.

If the weaver chooses the flat stick type of shuttle it should be in proportion to the width of the material being woven. He should not have to insert his receiving hand far into the shed to assist the stick through the web.

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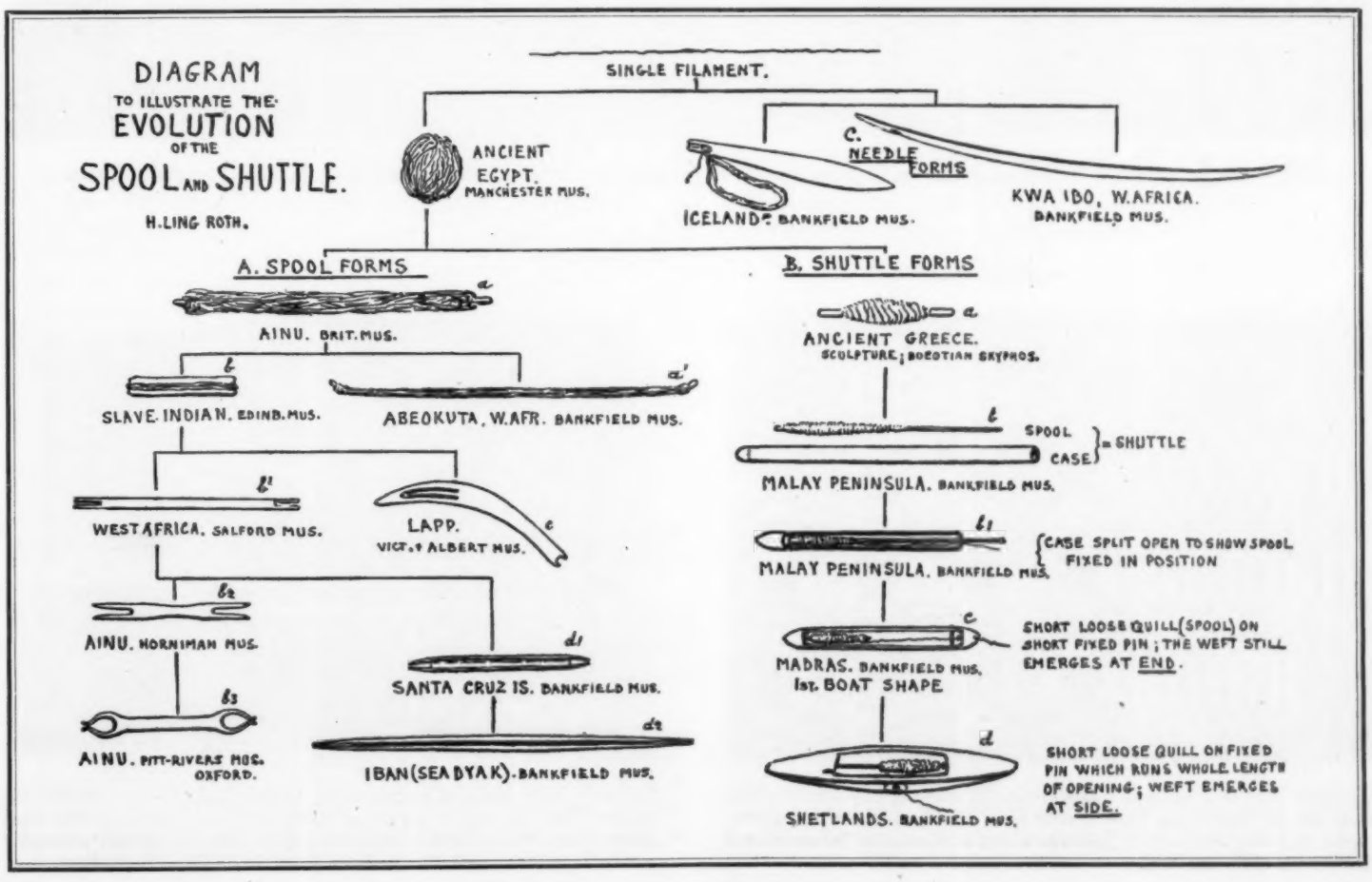
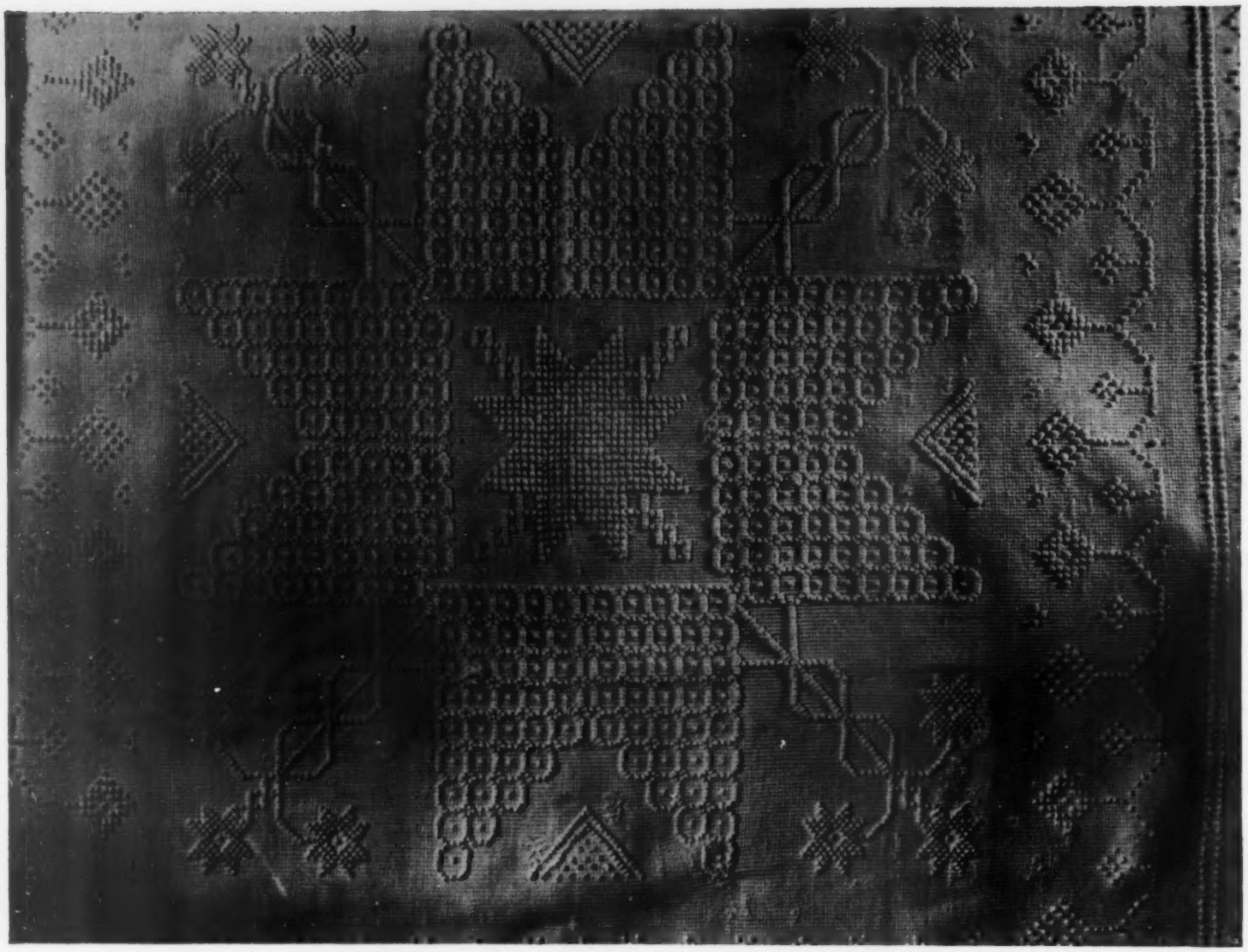
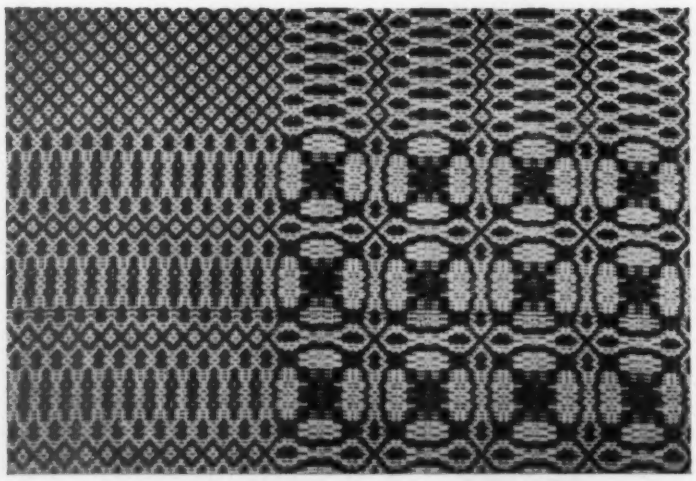
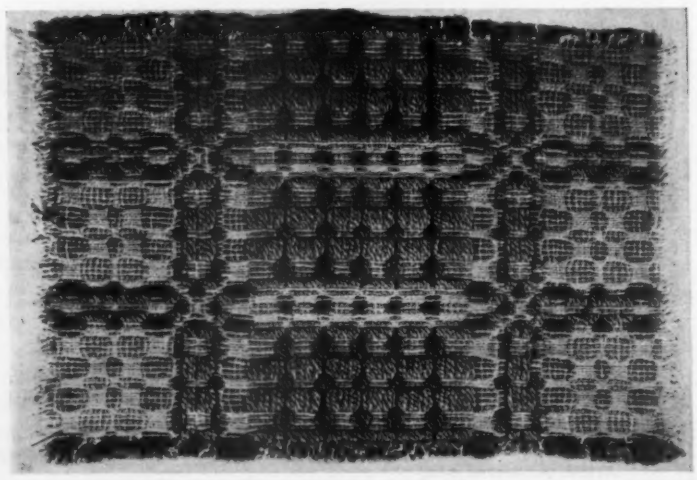




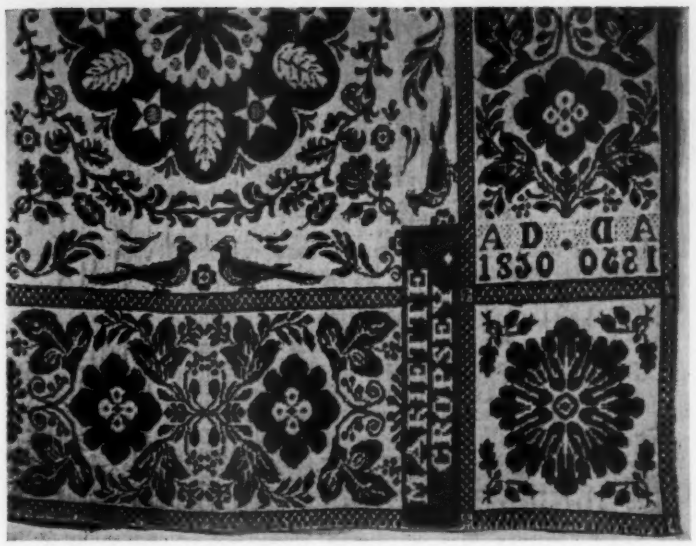
Candlewick bedspread. 18th Century American. Handwoven. Shown by courtesy of Brooklyn Museum and Michelle Murphy of that museum.



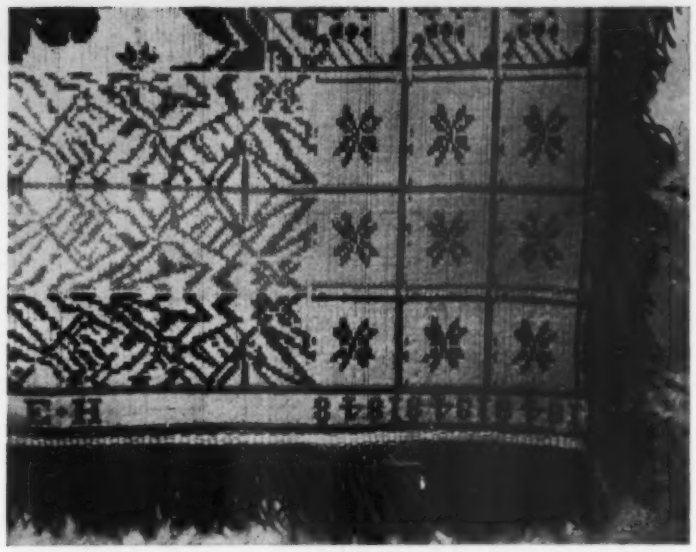
A modern copy of a Southern Colonial coverlet made of Lily's 20/2 cotton warp, Bernat Home-Spun Yarn in delft blue. The threading is a dogwood border and whig rose center. This was woven at Wautauga Industries and Handicrafts at Boone, N. C.



Part of coverlet designed and woven by Luther Hooper before the Revolutionary War. The cotton warp and tabby was home spun, and the wool pattern yarn. Wool is said to have been dyed using walnut burl producing golden brown and dark brown. From collection of Miss Berta Frey.



First Bedspread made on the Jacquard Loom in the state of New York in 1850 for Mariette Cropsey. This is made of cotton warp of hand spun Turkish Red weft. At that time the weaver carried his loom from family to family and contracted to weave all articles and the clothes necessary for that household for a year's time. Mrs. Bessie Day Pearson lent this.



The early Dutch Bedspread, fragment of which is shown above. Woven in Pennsylvania in 1848. The warp is linen about 20/2 in size. The weft is hand spun wool in dark blue and two shades of Rosy Red employed at that time. It was woven on a hand power foot treadle loom in 1848. It is shown through the courtesy of Mrs. H. Blair Minick, New York City.

TYPES OF HAND-LOOM WEAVING LEFT BY THE EARLY AMERICAN CITIZENS

While some of the Colonists brought looms with them from their native lands, the American pioneers constructed large, cumbersome looms of hand-hewn timbers. On these looms they wove cloth from flax and wool raised in their new surroundings. Many of these looms are still in existence and can be easily reconditioned at a nominal cost. As a rule they carry four harnesses, which were sufficient in those days for the materials required. The sturdy and beautiful fabrics which have been handed down to us from the era attest to the ingenuity, cleverness and ability of the weavers.

Aside from the usual white and natural colors of the fibers, the weaver often dyed his yarns with extracts from barks, leaves, and roots. Conditions in the Colonies in these days did not require a loom to make a brocade or a damask.

On this page are shown examples of early American weaving by courtesy of Brooklyn Museum and Michelle Murphy of this museum.

Looms in America today are patterned after the Scandinavian and the early type American rather than the commercial looms.

Early Hand Woven Coverlets

Carding, spinning, and weaving were brought to this country as household occupations. Practically every home had its ordinary hand-loom of simple construction. These looms produced essential fabrics for home and personal usage.

There was a diversification of style and technique in early weaving that was fairly representative of the various nationalities which settled in the New World. The hand-woven coverlet, adapted to a new and special use, was distinctly an early American development. Despite the fact that the weave constructions and many of the motifs or patterns were derived from Continental sources, these bedspreads were developed and elaborated upon by the domestic weavers. Made of cotton, linen, or wool, they were woven in two strips approximately three feet wide and were made to fit together in a very interesting and harmonious manner. Coverlets were made in all settled areas in the early days and all of these show skill and ingenuity in the combination of color and design.

Popular Designs of the Period

Chariot wheels, snowballs, the white rose and other popular motifs were among these early designs which were readily adapted to the reversible double-woven coverlets. The constructions showed a variety of double woven effects, two distinct fabrics. This manner of weaving was much too difficult for the ordinary weaver; wandering professional weavers who were adept in this type of work made a very good living in plying their trade.

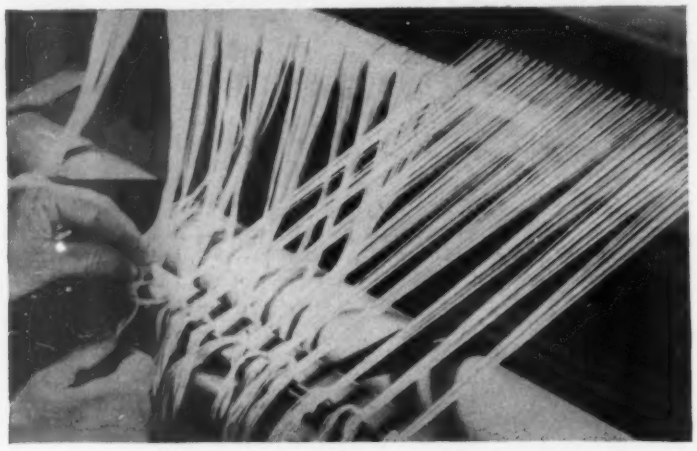
With the advent of the famous Jacquard loom in the early 19th Century motifs and designs became increasingly elaborate and intricate. Naturalistic patterns, conventional ornamental and patriotic symbols and inscriptions were combined in profusion.

Many motifs closely followed the contemporary designs of carpeting and wallpaper, while others were taken from imported pattern books and pamphlets.

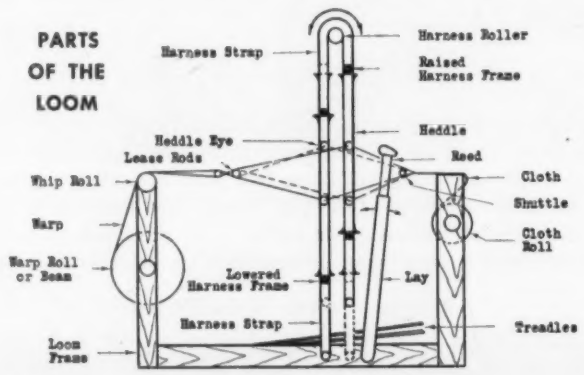
In addition, the great rise in technical improvements on looms for power weaving, along with the progress made in aniline dyeing, had devastating effect on the hand-weaving industry. Thus, the rich colors of the home-made dyes, the originality of design, and the beauty of hand-loomed fabric in this early era were sacrificed to a fast-growing commercialism. The era of the early American coverlet came to a close by the end of the Civil War.

(*please turn page*)

Showing the process of tieing the new warp to the used warp that is still in the heddles. This eliminates the re-threading of the pattern.



Tieing the warp to the cloth beam. Pictures made by H. Blair Minick, Jr.



After weaving a yardage of wool tweed, the weaver is now ready to take the web off of the loom. This picture illustrates the "cutting off."

HAND-LOOM WEAVING . . . PART I

INSTRUCTIONS FOR PREPARING THE WARP

The following material given to beginning students in Course, Home Economics 335, *for Hand Loom weaving in The Woman's College, University of North Carolina, Greensboro, N. C.*

A. THREADING A LOOM from the front.

1. After the warp chain is made, secure it to the front of the loom, spreading the warp-ends in the securing-cross-string.
2. With a reed hook, draw ends through the spaces (DENTS) of the REED, according to a plan decided upon earlier. Draw in SINGLE, DOUBLE or HALF-SLEY. (If desired, the threads may be removed from the securing cross-string during this operation as it has served its purpose to keep the warp-ends in a parallel order). SLEY heavier at edges for SELVAGES.
3. Enter each thread into an eye of the HEDDLES according to a DRAFT previously decided upon.
4. Check for mistakes as small units are drawn in, and tie loosely in small groups until entire warp is ENTERED into HEDDLES.
5. Carefully even-up ENDS in small groups and tie each group to the rod on the APRON of the WARP BEAM. (Place the group over and around the batten, separate in halves, bring each half up and tie a bow square knot over the top).
6. Pull the entire warp chain forward, holding it tightly a short distance from the reed.
7. Shift the harnesses and put in the leash sticks, tying to both back and upright side beams.

B. ROLLING WARP ON TO LOOM. The longer the warp, the more care is necessary.

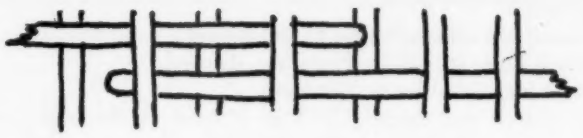
1. Unchain a reasonable length of warp, about three yards.
2. Hold it securely at this length, or at its end if it is short.
3. Shake out the apparent tangle, pulling entire warp (which now is firmly secured to warp-beam). This will straighten out all loose ends. If care has been taken in evening-up ends before tying, no combing will be necessary.
4. If COMBING is necessary, start at far end of warp, working toward the loom until all warp ends lie parallel and are of the same tension.
5. Hold securely as the ROLLING-ON takes place. (This may require four hands, each spaced in correct relationship with the position of the warp in the reed).
6. Start winding (one revolution of the warp beam). Insert a piece of pliable cardboard or hard paper (Manila tag) cut to the full width of the warp, and roll on with the warp to insure a firm, uniform cylinder.
7. Hold warp slightly slack as rolling takes place and pull up very firmly after each one or two revolutions. (Assistants must regulate tension according to each other.) Watch for slack threads, snarls, and knots likely to be caught in the reed or in the heddles.
8. Continue rolling up and supplying widths of hard paper until ends are within tying distance of the reed.
9. Tie in small groups to the rod of the apron of the cloth beam, using the same method as on the warp beam, but tying only half of the square knot at *this* time.
10. Harness-up loom, if it needs it at this time, attaching heddles, treadles, levers, lams, etc. according to the loom involved.

C. STARTING TO WEAVE.

11. Start weaving to test for mistakes. Then tighten up each group of warp threads uniformly and tie the other half of the square knot or a bow. Insure an even tension throughout the entire warp.
12. Put in several "SHOTS" of coarse weft, using the PLAIN weave shifts, *beating in place only after two or three shots have been inserted,* so that the open spaces made by the group tying will quickly close and allow the piece of weaving to be begun against a firm start without wasting an undue amount of warp.
13. After the weaving is started a few inches and before it has been rolled up beyond the breast beam, hemstitch to put a firm finish to the article. This will, in many cases, be preferable to knotting where a fringe is desired. The same may be done at the other end while the material is still on the loom.

POINTS TO KEEP IN MIND WHEN WEAVING

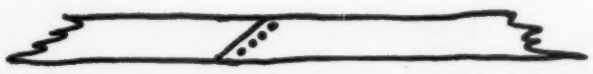
1. Release pawl when loom is not in use.
2. On table looms leave all levers up.
3. Begin weft thread by putting it around the outside warp thread and back in the same shed one or two inches.
4. End a weft thread in the same way.
5. Splice weft threads of the same color, preferably toward center of weaving — rather than near the selvage, overlapping them about two inches.



6. To repair broken warp threads take a length of warp material and tie it to the broken thread with a weaver's knot.

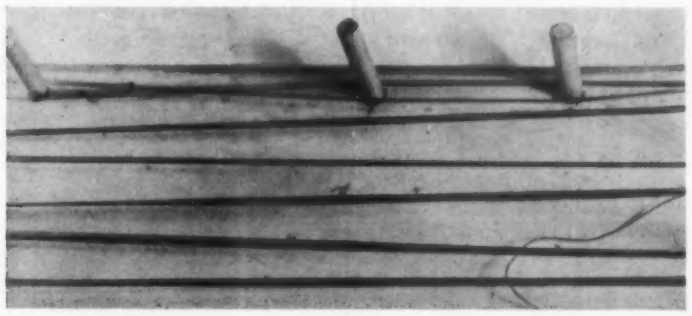
Bring it forward through the correct heddle and dent in the reed, and wind it around a pin fastened to the weaving.

7. Keep the weaving full width by leaving or making a large with weft thread.
8. Put a couple of rovings in after the weaving is finished.
9. Before cutting the finished piece off the loom bring the weaving forward far enough so that slip knots can be tied in front of the reed. (About 8 inches between reed and weaving.)
10. In a pattern weave use a binder (usually of finer material) except in bound weaves, such as goose eye.
11. Sew carpet rags diagonally, merely overlapping the ends. It prevents bumpy spots in the woven piece.



12. If shed is poor, see if:
    (1) Lease sticks are too close to heddles.
    (2) Weaving is too close to reed.
    (3) Threads are crossed between heddles and reed.
13. Wind plenty of paper on with your warp when warping with a chain.
14. If the warp is set close in the reed, wind warp on corrugated paper.
15. The purpose of a lease is to keep threads in order for threading and putting on the beam. With a sectional warp beam, no lease is needed.
16. Don't narrow in your weaving. It is better to weave without a template. Don't leave loops on the edges.

The Hand-Loom weaver choosing his warp and weft yarns.

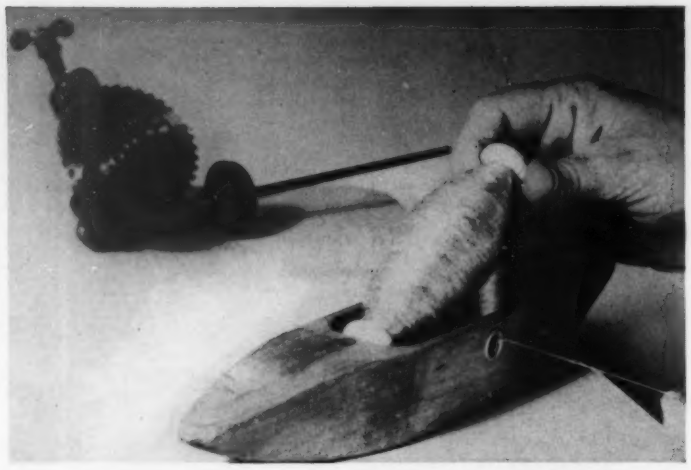


Making the warp on a small lap style warping frame.

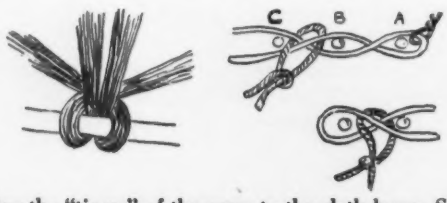
Detail of the procedure of chaining the warp.

Sketch showing how to grasp the warp for chaining.

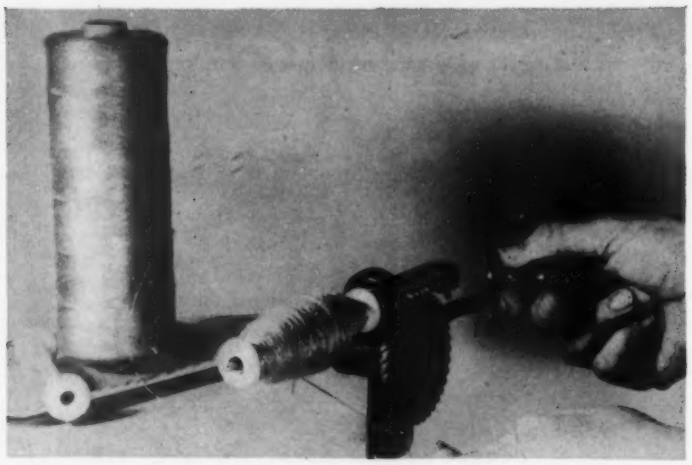
The Hand-loom weaver chains the warp after taking it from warping frame.



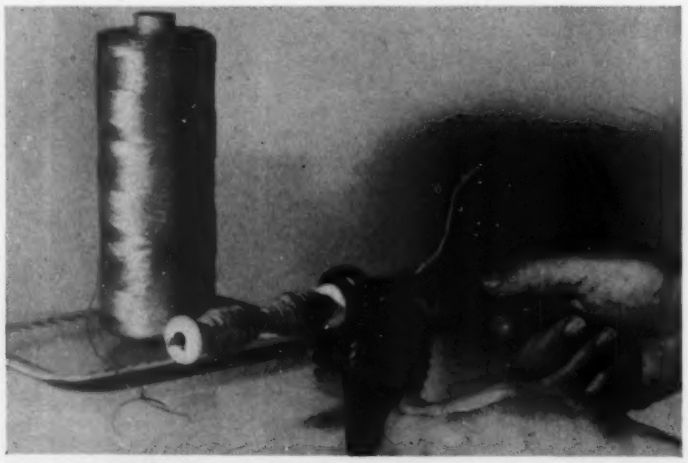
The weaver placing bobbin in a No. 2. Golden Rule Shuttle, ready to weave. Pictures made by H. Blair Minick, Jr.



Sketch showing the "tie-up" of the warp to the cloth beam. Same tie-up is used to attach the warp to the warp beam.



The Bobbin is now built up, to have one mountain in the center of the bobbin.



The weaver winds the bobbin, taking care to make 2 mountains and the valley between, to prevent the troublesome "waggle-tail."

HAND-LOOM WEAVING . . . PART I

"DON'TS" AND A FEW OTHER SUGGESTIONS

1. Don't leave a loom on a tension at night.
2. Put a damp bath towel over a linen warp at night.
3. Don't put on too long a wool warp for the yarn will lose its life. Weave it immediately.
4. If you have a fuzzy warp, dress it before warping or, if it is on and gets fuzzy, put the dressing on while on the loom. Put the dressing on with a sponge.
   Dressing: ½ cup flax seed boiled in water to the consistency of starch.
   Round linen doesn't have to be dressed.
   Single linen should be damp and dressed.
5. Don't leave shuttles on the warp.
6. To start a new thread, don't let it hang on the edge; put it around a single thread and put back in the same shed.
7. Don't tie a knot in the weft thread.
8. Edges: Throw the tabby first and then the pattern; put the pattern shuttle behind the tabby on the top while weaving. On a twill use two shuttles in the same color to make a good edge.
9. Put thread through and beat, change and beat a couple of times. Short beats are better than one hard beat.
10. Don't tie a hard knot any place on the loom. There are many suitable knots that untie easily.
11. Don't weave if the warp is in bad shape. A bad warp can easily be corrected by winding it on the cloth beam and beaming it back.
12. Put a narrow warp on in the middle of the beam.

A Few Other Notes and Suggestions

1. Cover loom at night.
2. Sizing. A sizing to put on linen and woolen warp:
   Make a thin solution of gum tragacanth by dissolving a small quantity in water and straining it. Brush over warp.
3. Washing. Mrs. Atwater says linen should be washed several times and soaked over night in soap water. She says, "Iron and iron and iron. They look better after a couple of years."
   Steam wool and press rather than wash.
   Lace Bronson is better after several washings.
4. Beaming. Best to beam from front to back. In beaming a loom, corrugated paper may be used for the first winding of the warp on loom. It also may be used on cloth beam.
5. Shuttles. Miss Frey suggests fastening the weft thread on the shuttle with a bit of adhesive tape before beginning to wind. Also wind weft on fiber shuttles over fingers to keep shuttles from bending.

HIGH POINTS ON SPINNING

Spinning is the drawing out and twisting of wool or other fibers into thread or yarn. (4 inches of wool roll should make 1 yard of yarn)

It requires 8 spinners to keep 1 weaver busy.

The wool from 5 sheep will furnish all the wool required for clothing, home furnishings and blankets for a family of 5 people.

Parts of the small flax wheel:—

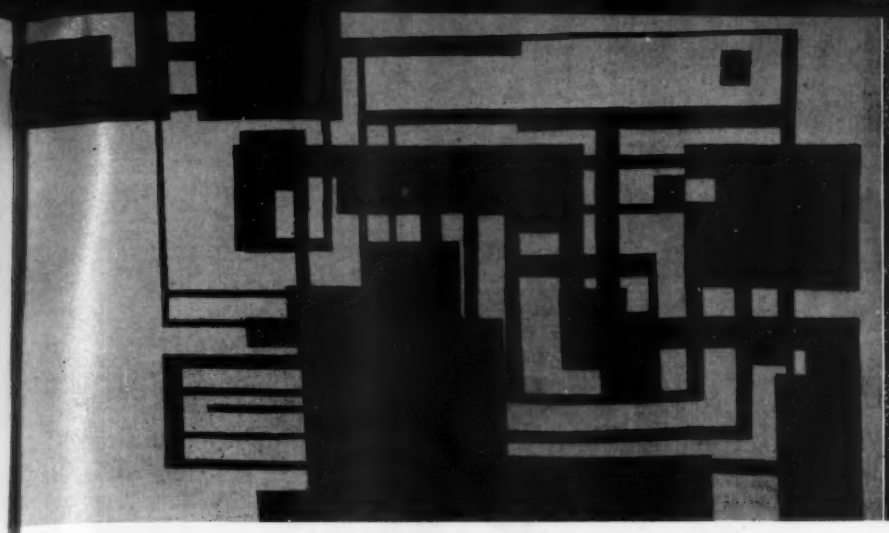
Distaff: Part at the front of the wheel for holding the raw material or flax.

Flyers: Curved pieces of wood attached to the spindle, furnished with hooks for guiding the yarn onto the spool.

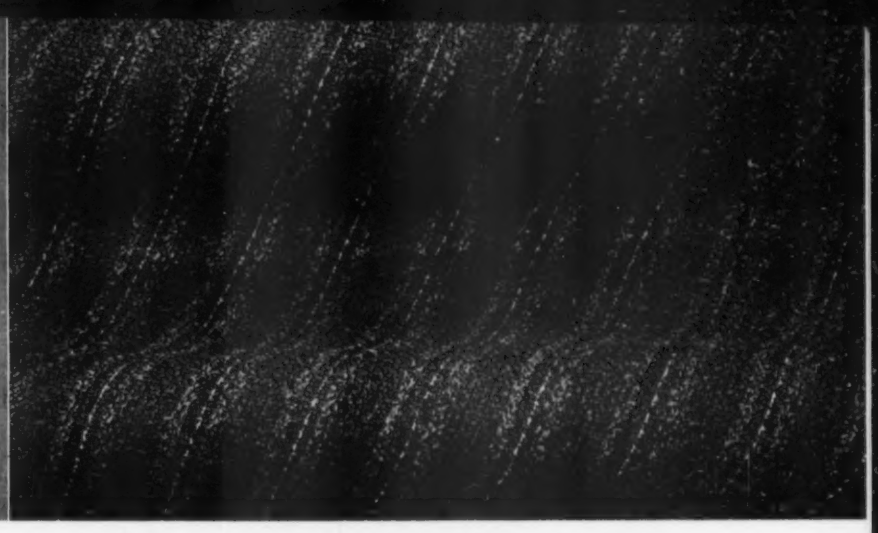
Spindle: Steel rod which twists the wool.

Treadle: The foot is placed on the treadle to give motion to the wheel.

Whip-stick: Flat stick which attaches the treadle to the wheel.



First Prize — Classification E — Henrietta W. Mueller



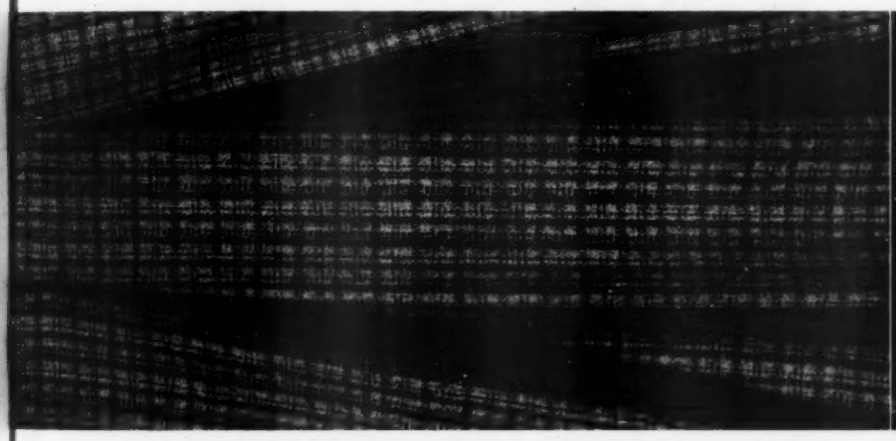
Second Prize — Classification B — Mary Walker Phillips

PRIZE-WINNING TEXTILES IN COLLEGE WEAVING EXHIBITION

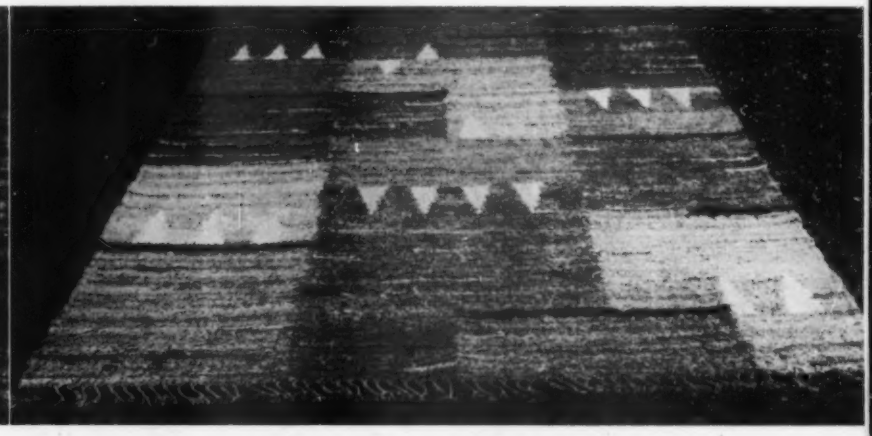
". . . to stimulate in the college students, the designers and consumers of the future, an awareness of the potentialities in the field of textiles" . . . thus reads the excerpt from the reasons for holding the International Textile Exhibition of the Woman's College of the University of North Carolina at Greensboro.

The exhibition, which is being held during the month of November, is being sponsored by: American Enka Corporation; American Viscose Corporation; Burlington Mills; Marshall Field and Company; Peerless Spinning Corporation; Celanese Corporation of America; Hughes Fawcett, Inc.; Goodall Fabrics; Benjamin Cone; The Randolph Mills, Incorporated. Eleven of the prize-winning designs are reproduced on this page.

First Prize — Classification B — Roberta Louise Pearson

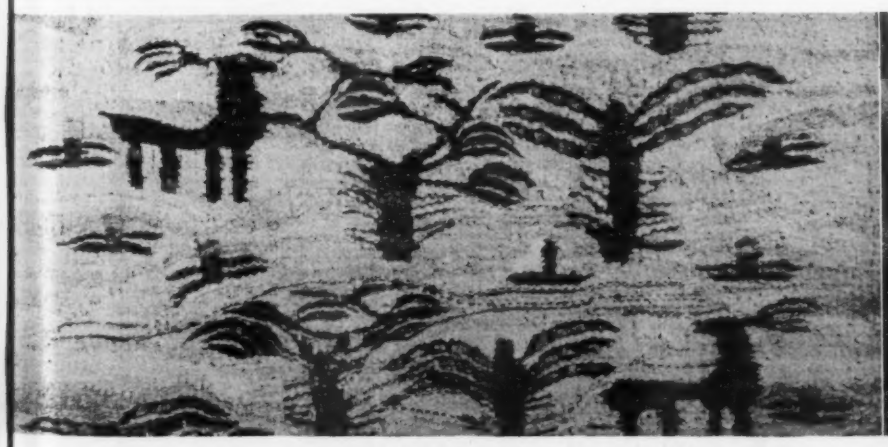


Third Prize — Classification A — Kenneth E. Peabody

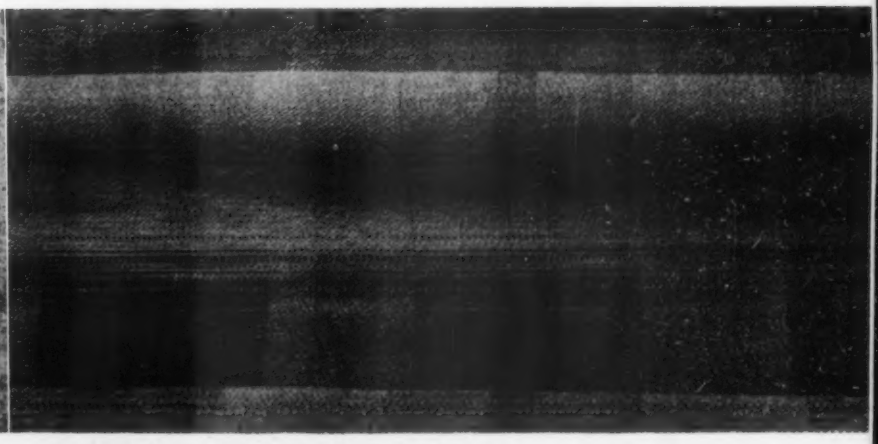


Second Prize — Classification A — Krystyna Kopczynska-Sadovska

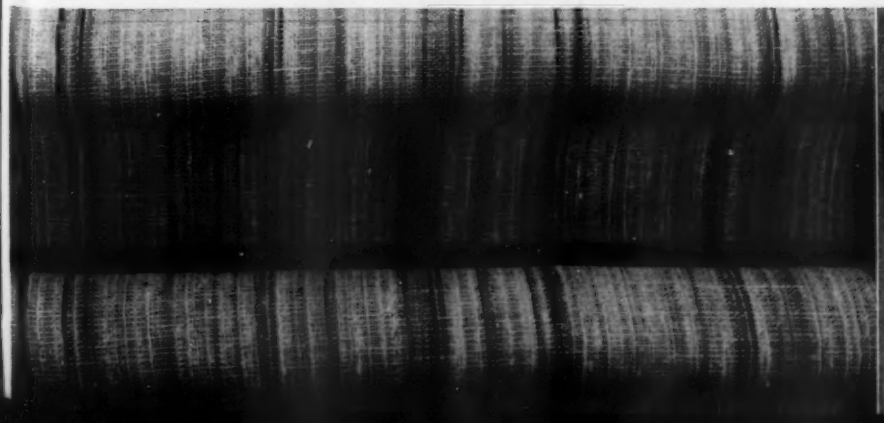
First Prize — Classification C — Gladys Rogers Brophil



Second Prize — Classification G — Georgia B. Chingren



Third Prize — Classification E — Mackenzies.



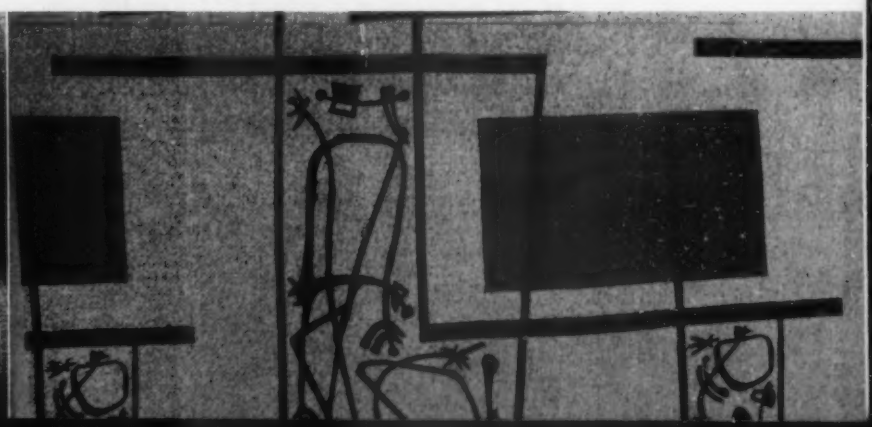
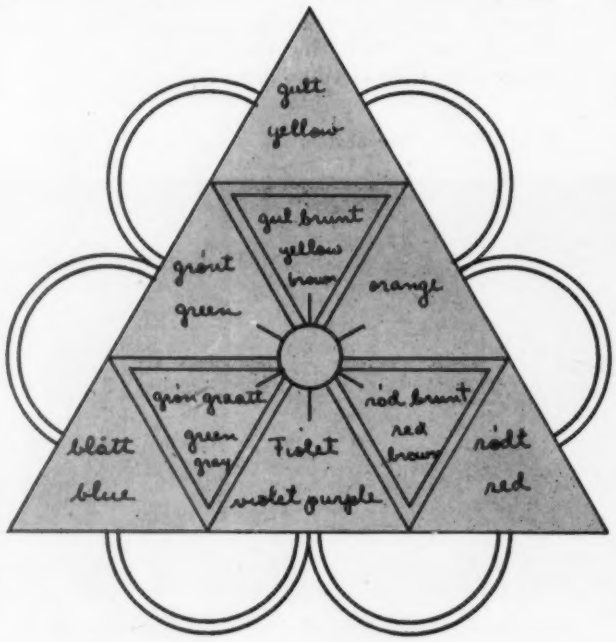
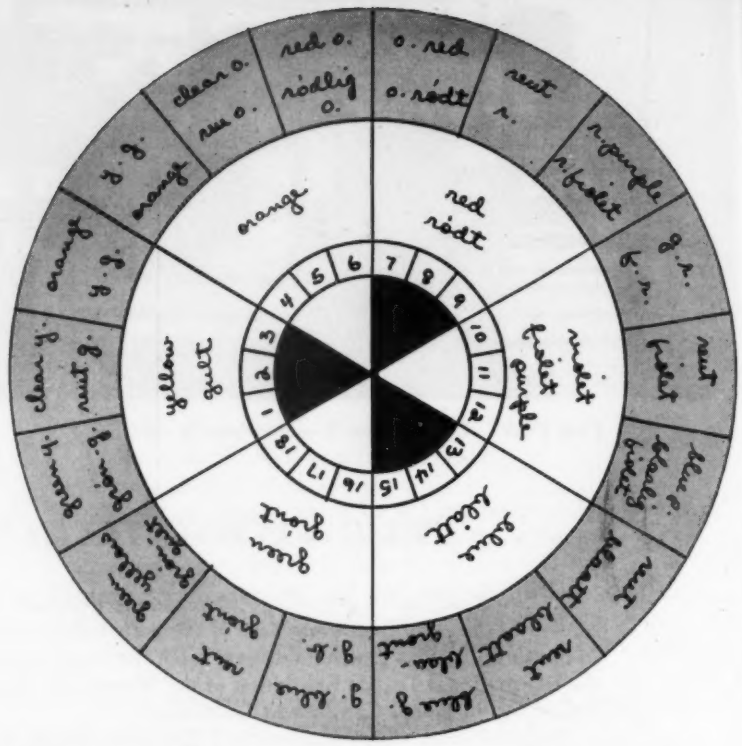


CHART OF TERMS USED IN HAND LOOM WEAVING

English	Swedish	French	German
beater	vävsked	ros	Anschlaglade
cloth	tyg	tissu	Web
dents	rostandtander	peus	zahn
draft	soloning	tracé	Einzuge
harness	skaft	lame	Schafte
heddle eye	solv	lisse	Litz
loom	vavstol	métier	Webstuhl
pattern	mönster	patronmodel	Muster
shuttle	skyteel	navette	Schiffchen-Schutz
sleying	skedtathet	passage en ros	blatt eiziehen
tabby	bundvav	liaison	tuchbindung
tie-up	uppknytning	attachage	Kette Einteilung
treadles	trampor	marches	Pedale
warp	varp	chaine	Kette
weave, weaving	vav, vavning	tisser	Flecht weben
weft	vaft	duitetrame	Schlussfaden
wheel	spindehjul	rouet	Spinnrad
black	svart	noir	Schwarz
bleached	vitblekt	blanchi	gebleicht
blue	blatt	bleu	blau
brown	brun	brun	braun
colors	farjer	couleurs	Farben
cotton	bomull	coton	Baumwolle





green	grön	vert	grun
gray	gra	gris	grau
light	ljus	pâle	leicht
linen	lingarn	lin	leinen
orange	orangeforjad	orange	Orange
red	röd-rott	rouge	rot
rose	ljus-röd	rose	rosa
satin	atlas	satin	Atlas
silk	siden	soie	Seide
tan	ljus brun	bronze	hellbraun
thread	trad	fils	Faben
unbleached	oblekt	naturel	ungebleicht
violet	violet	violet	violett
white	vit	blanc	weiss
wool	ull-ylle	laine	Wolle
yarn	garn	fils	Garn
yellow	gult	jaune	gelb
border	bard	bordure	Bord
drill	drall	serge	drill
mat	matta	tapis	Teppich
rep	rips	reps	Rips
spinning	spinnehjul	rouette	Spinnern
swift	garnvinde	devidoir or tournette	Garnwinder
twill	kypert	serg	Koper

Short List of the "Size of Yarns" for Hand Weaving Yarns

Basis of yarn measurements is weight to yarn length. Canada and the United States use the British pound — 16 ozs. used for: wool, flax, hemp, cotton.

I. Cotton

The standard count is 1 lb. of 16 ozs. and the skein is 840 yards.

No. 1 weighs 1 lb. and contains 1 skein 840 yards.
No. 2 weighs 1 lb. and contains 2 skeins of 840 yards or 1680 yards.
No. 3 weighs 1 lb. and contains 3 skeins of 840 yards or 2520 yards.
No. 4 weighs 1 lb. and contains 4 skeins of 840 yards or 3360 yards.
No. 5 weighs 1 lb. and contains 5 skeins of 840 yards or 4200 yards.
No. 10 weighs 1 lb. and contains 10 skeins of 840 yards or 8400 yards.
No. 20 weighs 1 lb. and contains 20 skeins of 840 yards or 16800 yards.
When the threads are doubled the skeins are only half as long.
20/2 weighs 1 lb. and will contain 8400 yards.
10/2 weighs 1 lb. and will contain 4200 yards.
5/2 weighs 1 lb. and will contain 2100 yards.
3/2 weighs 1 lb. and will contain 1260 yards.

II. Flax-Linen

The standard count is 1 lb. of 16 ozs. and the skein is 300 yards.

No. 1 weighs 1 lb. and contains 1 skein of 300 yards.
No. 2 weighs 1 lb. and contains 2 skeins of 300 yards or 600 yards.
No. 3 weighs 1 lb. and contains 3 skeins of 300 yards or 900 yards.
No. 4 weighs 1 lb. and contains 4 skeins of 300 yards or 1200 yards.
No. 5 weighs 1 lb. and contains 5 skeins of 300 yards or 1500 yards.
No. 10 weighs 1 lb. and contains 10 skeins of 300 yards or 3000 yards.
No. 20 weighs 1 lb. and contains 20 skeins of 300 yards or 6000 yards.
Flax in England is sold in bundles of 60,000 yds. and the weight varying according to no. of thread.

III. Worsted

Standard count is 1 lb. of 16 ozs. with skeins of 560 yards.

No. 1 weighs 1 lb. and contains 1 skein of 560 yards.
No. 2 weighs 1 lb. and contains 2 skeins of 560 yards or 1120 yards.
No. 3 weighs 1 lb. and contains 3 skeins of 560 yards or 1680 yards.
No. 4 weighs 1 lb. and contains 4 skeins of 560 yards or 2240 yards.
No. 5 weighs 1 lb. and contains 5 skeins of 560 yards or 2800 yards.
No. 10 weighs 1 lb. and contains 10 skeins of 560 yards or 5600 yards.
No. 18 weighs 1 lb. and contains 18 skeins of 560 yards or 10080 yards.
2/18 weighs 1 lb. and contains 10080 ÷ 2 = 5040 yards.

IV. Wool — Run, Boston or New England System.

Standard count is 1 lb. of 16 oz. with skeins of 1600 yards.

No. 1 weighs 1 lb. and contains 1 skein of 1600 yards.
No. 2 weighs 1 lb. and contains 2 skeins of 3200 yards.
No. 3 weighs 1 lb. and contains 3 skeins of 4800 yards.
No. 4 weighs 1 lb. and contains 4 skeins of 6400 yards.
No. 5 weighs 1 lb. and contains 5 skeins of 8000 yards.
2/4 weighs 1 lb. and contains 6400 ÷ 2 = 3200 yards.

V. Wool-Cut, Philadelphia System.

Standard count is 1 lb. of 16 oz. with skeins of 1600 yards.

No. 1 weighs 1 lb. and contains 1 skein of 300 yards.
No. 2 weighs 1 lb. and contains 1 skein of 600 yards.
No. 3 weighs 1 lb. and contains 1 skein of 900 yards.
No. 4 weighs 1 lb. and contains 1 skein of 1200 yards.
No. 5 weighs 1 lb. and contains 1 skein of 1500 yards.
No. 10 weighs 1 lb. and contains 1 skein of 3000 yards.
No. 18 weighs 1 lb. and contains 1 skein of 5400 yards.
2/18 weighs 1 lb. and contains 5400 ÷ 2 = 2700 yards.

WHERE TO PURCHASE SUPPLIES FOR WEAVING

ANNIEL YARNS CO. — Wool yarns. Mt. Airy, N. C.

AUGUR, W. A. — Fisherman's supplies, cord, seine needles. 35 Fulton Street, New York, N. Y.

BARTLETT MILLS — Bartlett yarns. West Harmony, Maine

BERNAT, EMILE — Yarns, wool, cotton and linen looms and other equipment. Jamaica Plains 30, Mass.

BRADSHAW, HOWARD — Reeds, reconditioned reeds, heddle bars (specify length and dent). P. O. Box 1103, Spartanburg, S. C.

BROOKS, MARGUERITE — Instruction cards — Series 2. R. 1, South Norwalk Road, Darien, Conn.

BURCHARD WEAVERS — Looms, other equipment. 468 19th St., Oakland, Cal.

CLIVEDON YARN CO. — Yarns, equipment. 711 Arch St., Phila., Pa.

CANTESSA YARNS — Suppliers of nubly cottons and other materials for hand loom-weaving. 3-5 Bailey Ave., Ridgefield, Conn.

DEYRMANJIAN, D. K. — Oriental rug yarns (similar to Bernat's Persio) $3 a lb. 245 Fifth Ave. (28th St.), New York, N. Y.

DRYAD HANDICRAFTS — Books, looms, equipment. Leicester, England

EDERER, R. V. THREAD CO. — Linen yarn — warp and weft. Elizabeth and Unity Sts., Philadelphia, Pa.

FAWCETT HUGHES, INC. — Linen Yarn Specialists — Linen, wool, cotton for warp and weft. Flax for spinning. Non-tarnishing, washable metal threads, also metal spaced twisted on linen, in gold, silver and copper. Looper clips, carpet warps, cotton roving. Looms, warping frame, reels, spool racks, shuttles, heddles, reeds, harness frames. Warps cut and chained ready to put on. Ready-warped spools, linen and cotton. Bobbins, bobbin winders, Swedish and wall type. Loom cords, heddle cords. Plastic pick-up shuttles. Draw in hooks. Weaving consultant service. 115 Franklin St., New York 13, N. Y.

FEZANDIE AND SPERRLE — Dyes in small quantities. 205 Fulton St., N. Y. C.

FIBER YARN CO. — A source of large variety of cotton, rayon, wool, man-made yarns. 838 6th Ave., near 30th St., New York City

GALLINGER CRAFTS — Looms, shuttles, other equipment. Guernsey, Penna.

GILMORE, EVERETT — Looms, floor, inkle looms. 1200 W. Harding Way, Stockton, Calif.

HAMMETT, J. L. CO. — Looms, shuttles, warp spools, and other equipment. 380 Jelliff Ave., Newark, N. J.; or Cambridge 42, Mass.

J. C. YARN CO. — Odd lots of yarn. A yarn clearing house. 109 Spring Street, New York, N. Y.

LILY MILLS CO. — Yarns, cotton, mercerized cottons. Shelby, N. Carolina.

*LOCKE, J. E. — Handicraft and Weaver's supplies. Table looms, "The Traveler Loom." 5322 Snowdon Ave., Montreal, Canada

*MERCER TEXTILE CORP. — Nylon yarn in colors. 260 W. Broadway, N.Y.C.

PERCELAY YARN CO. — Wool, worsted. Pawtucket, R. I.

RABUN STUDIOS — Handwoven fabrics, carded wool, homespun yarn. 810 Madison Ave., New York, N. Y.

SALEM LINEN MILL — Linen yarns. Salem, Oregon

SAMSON CORDAGE WORKS — Loom cord 3-½ white glazed mason line. Boston, Mass.

SHEEHY, THOMAS — Yarns. Philip, Maine

SHEPPARD YARN CO. — Yarns. Newton, Mass.

STEEL HEDDLE MFG. CO. — Heddles. 2100 W. Allegheny Ave., Philadelphia, Pa.

STEINBERGER BROS. — Snowball yarns. 10 W. 33 St., New York, N. Y.

STRINGFIELD, DAN B. — Colored Looper clips. Thomasville, Ga.

TINKLER AND COMPANY — Warp, rug wool. 527 Arch St., Philadelphia, Pa.

UNIVERSAL HANDICRAFT SERVICE — Looms, yarns, etc. 1267 Sixth Ave., New York, N. Y.

WEST UNITY MILLS — Wool yarns. West Unity, Ohio

WHITAKER REED CO. — Reeds (specify length and dent). Manchester, N. H.

WHITALL CO. — Woolen and worsted yarns. Worcester, Mass.

WOOL NOVELTY CO. — Dyed looper clips mercerized, 1 lb. packages. 10 W. 20th St., New York, N. Y.

WORTH, W. H. — Looms, shuttles, spool bobbins. 812 So. Haden St., El Reno, Okla.

ZIMMERMAN AND COOGAN — Wool yarns. 120 Chestnut St., Phila., Pa.

HAND-LOOM WEAVING . . . PART I

WEAVING EQUIPMENT AND SUPPLIES

AHRENS WEAVERS, 3524 Diamond Ave., Oakland, Calif. Information of looms and catalogue on request.

MARGARET BERGMAN, Paulsbo, Washington. Multi-harness looms. Rigid foot power looms, String heddles.

BEREA COLLEGE, Berea, Kentucky. American and Swedish bobbin winders. Now making the famous Berea Loom.

BINDER LOOM CO., 25 E. Palm Street, Altadena, Calif. Loom information on request.

GLADYS ROGERS BROPHIL, 63 W. Schiller St., Chicago 10, Ill. The "Norwood Loom" in several sizes. Many other items of interest to weavers.

CRAFT AND HOBBY BOOK SERVICE, 640 Grace St., Monterey, Calif. Agents for the Macomber "Add-A-Harness" Loom.

S. D. FELL, 1626 9th Ave., Oshkosh, Wisc. Spinning wheels made to order, small flax wheels only; can be used for wool or other fibers.

GALLINGHER CRAFTS, Guernsey, Penn. Solid walnut looms in various sizes, and harnesses. Complete line of accessories. Catalogue on request.

MARTIN GAVETTI, Fairview Road, Swarthmore, Penn. Builds looms designed by Forrest Crooks. Specifications published in "Country Gentleman."

GILMORE EVERETTE, 1200 W. Harding Way, Stockton, Calif. Inkle looms, floor looms — both rigid and folding.

GUNTAR, Glassboro Ave., Jamaica, N. Y. Looms and accessories.

HOLCOMBE MANUFACTURING CO., Wormleysburg, Penn. Four harness floor looms, warping equipment, foot treadle combination, spinning and bobbin winder. Write for prices and information.

NELLIE SARGENT JOHNSON, 12489 Mendota Ave., Detroit 4, Mich. "Hearthside Loom." A 25" table loom. And a 48" six-harness folding floor. Loom sold by Sears Roebuck & Co. Shuttles and warping equipment.

LOOM CRAFT STUDIO, Wilmington, Ohio, Box 688. Sabina folding loom, in several sizes and styles. Inkle looms, the new rocking bench.

ROGER MILLEN, c/o Ken Mfg. Co., Clifton Heights, Penn. Shuttles and bobbins for tweed weaving.

C. ALBERT MYERS, 650 W. Franklin St., Wytheville, Virginia. Maple and black walnut looms. Long needles for leno weave. Metal warping paddle to take 16 threads, makes automatic cross in warp. Write for particulars.

PENLAND CRAFT SUPPLIES, Penland, N. C. Shuttle, sectional beaming equipment, warping equipment, looms.

REED LOOM COMPANY, Springfield, Ohio. "Weaver's Friend" loom, various types and sizes. Loom parts and accessories. Write for catalogue.

STRUCTO MFG. CO., Freeport, Ill. Structo Artcraft looms, equipped to use ready-warped spools.

SWEDECRAFT, 1713 Moravian St., Philadelphia, Penn. Imported Swedish looms and equipment. All wood looms with overhead beaters, size 32" and 45".

LOU TATE, Kenwood Hill, Louisville, Ky. A two-harness table loom and put on a stand to make it a foot power loom. Can be converted to a four harness loom. Manual — "Weaving is Fun" — is furnished with the loom. Hand made boat shuttles.

THE HILLTOP WEAVERS, 19 Summit Road, Verona, N. J. Looms with either overhead or low beaters in various sizes. Write for particulars.

WALKER MFG. CO., Atlantic & Ruth Sts., Philadelphia 34, Pa. Manufacturer of flat steel heddles, heddle frames, reeds of all kinds.

E. CLAIR YOUNG, Box 806, Williamsport, Pa. Various types and sizes of table and floor model looms. Looms built to order for the physically handicapped. Handles a complete line of weavers supplies.

PART II OF HAND-LOOM WEAVING APPEARS IN AMERICAN FABRICS, ISSUE NUMBER 9, SPRING 1949.

Notice to Subscribers: Reprints of each part of "Hand-Loom Weaving" are available at $1 each, $3 for complete set. We request that you enclose payment when ordering copy or copies. Please address requests to:
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The story of the

ELASTIC FABRIC

that's made without rubber

Here's your personal copy

DISTRIBUTED BY PHILIP WICK CO., INC.
17 EAST 37th STREET, NEW YORK 16, N. Y.

AQ MILLS, INC.

TIMMONSVILLE, S. C.

FABRIC DISTRIBUTED BY **PHILIP WICK CO.**

17 EAST 37th STREET NEW YORK CITY

THE STORY of the FABRIC that combines ELASTIC ACTION with SOFT DRAPE.

What's the secret of ELASTA-Q? What gives it the astonishing combination of qualities which sets it apart?

It's not done with rubber. It's not done with chemicals. It's all in the construction: that exclusive double-knit, lock-stitch construction which makes this wonder fabric compact and elastic at the same time; and gives it soft draping qualities besides. That's how ELASTA-Q gets the stability as well as elasticity to mold the figure, yet yields with every motion. There's not another fabric like it in America today. Here are the specifications:

1. **S-T-R-E-T-C-H-E-S with the greatest of ease—springs back into perfect shape.**
2. **Combines elastic action with graceful draping qualities.**
3. **Does not lose its elasticity in laundering.**
4. **Molds the figure; makes you feel firm and compact.**
5. **Double-knit, lock-stitch construction prevents runs or sagging.**
6. **Has no reverse side . . . it's double faced.**
7. **Takes and retains colors beautifully.**
8. **Easy to fit any figure, due to fabric's elastic action.**
9. **Easy to launder; quick to dry.**
10. **Lovely, petal-smooth, luxurious texture.**
11. **Its versatility inspires many different fashions.**

ELASTA-Q

(pronounced ELAST-A-CUE)

ELASTA-Q HAS PASSED HUNDREDS OF WEARING AND WASHING TESTS BY ACTUAL CONSUMERS

OVER 500,000 GARMENTS

HAVE GIVEN EXEMPLARY SERVICE

ADVERTISED . . . BY HUNDREDS OF LEADING STORES IN NEWSPAPERS ALL OVER THE COUNTRY

DISPLAYED . . . IN HUNDREDS OF FRONT WINDOWS

WHAT'S HAPPENED IN THREE YEARS

Yes, ELASTA-Q is only three years old, hard as it is to realize that so much has been accomplished in so short a time. Previously double-knitting was confined to the glove industry. Both the machine and methods were imported. That is all the A-Q Mills had to go on. From this sketchy beginning A-Q developed new and undreamed-of textures in the now famous double-knit, lock-stitch construction. Before long ELASTA-Q was being made into sample garments and the consumer tests began — not just in one spot, but all over the country. Literally hundreds and hundreds of tests were made. Not until proof of performance was positive did the A-Q Mills authorize the first official release.

Since its production, ELASTA-Q has worked wonders in such widely diverse articles of apparel as panties, swimsuits, gloves and girdles. That's only the beginning. You'll soon find elasticity without rubber or chemicals in play clothes, blouses, brassieres, shorts. Already ELASTA-Q has been prominently featured by such famous national brands as Kickernick, Catalina, Daniel Hays, Fortuna.

Widely PUBLICIZED! Highly PRAISED!

ELASTAQ has been given
Feature Billing by national advertisers in

VOGUE CHARM
MADEMOISELLE GLAMOUR
LIBERTY HARPER'S BAZAAR
CALLING ALL GIRLS
JUNIOR BAZAAR SEVENTEEN
CHRISTIAN SCIENCE MONITOR

WHAT THEY SAY ABOUT ELASTA-Q

Now for a brief analysis of what they say about ELASTA-Q: in ads and in editorials, in newspapers and on the air, in showrooms and on the selling floor. Here are just a scattered few of literally hundreds of words of praise from letters of consumers and buyers; from press notices, ads and radio commercials:

"Customers call back for the second garment, after wearing and washing the first"

"Sophisticated colors—sensational new elastic fabric"

"Repeat sales from customers reported at all stores"

"Sleek and smooth in texture—soft in yield"

"Fabulous ELASTA-Q *conforms to your figure, lightly controls it, but without use of rubber"*

"Tops in flattery"

"An unbelievably strong fabric that can't run or ravel"

"Wears and washes approximately forever"

"Most of my sales people report they don't have to do much selling"

Please note that not one of these glowing tributes are from our own ads—but from letters or statements or advertisements of manufacturers, merchants or consumers. Time without number, ELASTA-Q has been hailed as "revolutionary", "wonderful", "fabulous", "unique", "amazing".

WHAT ARE THE REASONS FOR THIS POPULARITY?

Evidently there must have been a tremendous latent demand for an elastic fabric that makes you feel compact without the use of rubber or chemicals. That's the big basic reason for the sweeping success of ELASTA-Q with famous manufacturers and famous stores. But there are many others: its newness and smartness, its strength and easy washability, its magnificent colors and luxurious texture. Then there is the beauty of a cloth that has no seamy side to it—since the front and back are the same and equally lovely. Above all, is the endless versatility of the exclusive ELASTA-Q double-knit, lock-stitch construction. It's used for so many garments and sold in so many departments of the store.

And from the hard-boiled business point of view don't forget that ELASTA-Q is a stand-out value. You don't have to explain to customers that any ELASTA-Q garment is a real buy. Furthermore, it's competition-proof. There's no fabric in the market like it. That wonderful combination of elastic action and soft drape is unique. You've got splendid national advertising to back you up and all kinds of promotional possibilities.

WANT TO KNOW MORE ABOUT ELASTA Q ?

Just Write . . . PHILIP WICK CO.
17 East 37th Street
New York 16, N. Y.

If you're a manufacturer, we'll show you some of the wide open spots waiting for you.

If you're a retailer, we'll tell you what manufacturers are featuring garments of genuine ELASTA-Q, the wonder fabric with the double-knit lock-stitch construction that produces elasticity and compactness without rubber or chemicals . . .

The only cloth ever developed that combines elastic action with soft drape.

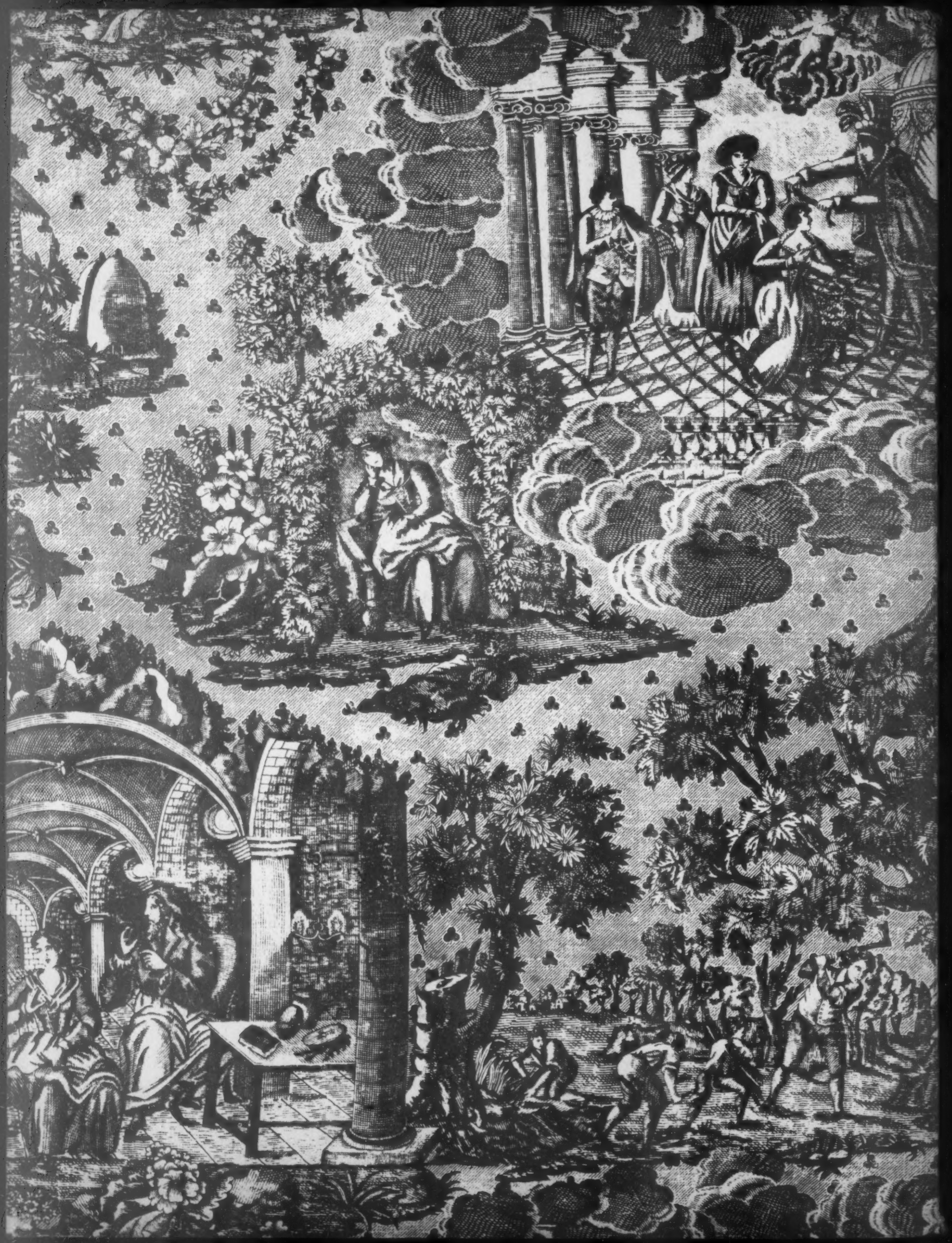
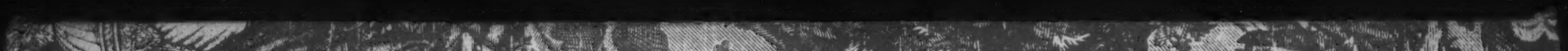
A-Q (Reg. U.S. Pat. Office)

THERE IS ONLY ONE

CURRENTLY EXHIBITED AT THE METROPOLITAN MUSEUM OF ART

america's finest silks

STEPHANIE CARTWRIGHT PRINTS

COUTURE FABRICS, LIMITED, 1412 BROADWAY, NEW YORK 18, N. Y.

Sunning under southern skies
. stunning under snow-spangled furs
. . . Bates superlative new series of
rayon prints. Each one as fluid,
as faultless, as the tortoise-shell
design shown . . . to make from
McCall Pattern 7353.
Bates
FABRICS
BATES FABRICS, INC., 80 WORTH ST., NEW YORK 13